BOSCH INJ. PUMP TO	EST SPECIFICATIONS
Note remarks	
Refer to Service adjustment instru See microcard(s)	ctions.
Edition Test oil	: 22.08.96 : ISO 4113
Part no. Pump designation	: 0 460 414 069 : VE4/11F2000R347
Customer-spec. in Customer	formation : LAND ROVER
Motor	: 2,5L DI TCI : 83.0
Power KW	: 63.0
TEST BENCH REQUIRE	ements
Calibrating-oil	
return temperature °C Tolerance °C	: 55 : 1
Tolerance °C -	: 1
Overflow restriction mm	: 0.75
Inlet press. bar Tolerance bar +-	: 0.35
Tolerance bar +-	: 0.05
Test nozzle holde	
assembly	: 1 688 901 116
Opening pressure bar	: 207
Tolerance bar +	: 3
Test lines	: 1 680 750 073
Outside diameter	: 6.00
x inside diameter	
× length mm	: 450
REMARKS	

TIMING DEVICE TRAV	/EL
Rated speed rpm Aneroid pressure	: 1600
hPa	: 1000
Setting mm Tolerance mm +	: 3.3 : 0.2
Shutoff solenoid Volt	: 12
SUPPLY PUMP PRESSU	JRE
Rated speed rpm Aneroid pressure	: 1600
hPa Supply pomp	: 1000
pressure bar Tolerance bar +	: 6.4 : 0.3
Shutoff solenoid Volt	: 12
FULL-LOAD DELIVERY	WITH BOOST PRESSURE
Rated speed rpm Aneroid pressure	: 1400
hPa Del. quantity	: 1000
cm3/1000 strokes Tolerance	: 63.6
cm3/1000 str. +- Spread	: 0.5
cm3/1000 strokes Check tolerance	: 3.0
cm3/1000s. Shutoff solenoid	: 4.0
Volt	: 12
FULL-LOAD DELIV. W	IITHOUT BOOST PRESSURE
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes Tolerance	: 35.0
cm3/1000 str. +- Shutoff solenoid	: 0.5
Volt Check tolerance	: 12
cm3/1000s.	: 4.0
IDLE SETTING	

Rated speed rpm :
Del. quantity
cm3/1000 strokes :
Tolerance
cm3/1000 str. + :

Shutoff solenoid

Volt

350

12.0

2.0

12

INJECTION PUMP SETTING VALUES

basnq2	1
cm3/1000 strokes : 4.0 Check tolerance	Rated speed rpm : 2000 Aneroid pressure
cm3/1000s. : 4.5	hPa : 1000
	+ Supply pomp
	+ pressure bar : 7.7
	+ Tolerance bar + : 0.3 + Shutoff solenoid
FULL-LOAD SPEED REGULATION	Volt : 12
Rated speed rpm : 2100	Rated speed rpm : 1200
Pressure hPa : 1000	+ Aneroid pressure
Del. quantity	+ hPa : 1000
cm3/1 00 0 strokes : 55.3	+ Supply pomp
Tolerance	+ pressure bar : 5.3
cm3/1000 str. +: 3.0	+ Tolerance bar + : 0.3
Shutoff solenoid	+ Shutoff solenoid
Volt : 12	† Volt : 12
STARTING FUEL DELIVERY	Rated speed rpm : 1000
Rated speed rpm : 100	OVEREI ON OVANITATY
Rated speed rpm : 100 Del. quantity	T OVERFLOW QUANTITY
cm3/1000 strokes : 105.0	Rated speed rpm : 2000
Tolerance	+ Aneroid pressure
cm3/1000 str. +-: 25.0	+ hPa : 1000
Shutoff solenoid	+ Overflow quantity
Volt : 12	+ ccm/10s : 152.7
	† Tolerance
	+ ccm/10s + : 27.7
	. 21.1
	+
	Check tolerance
TNIECTION-DIMP TEST SPECIFICATIONS	Check tolerance + : 41.6
INJECTION—PUMP TEST SPECIFICATIONS	Check tolerance ccm/10s +: 41.6 Shutoff solenoid
INJECTION—PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC	Check tolerance + : 41.6
	Check tolerance ccm/10s +: 41.6 Shutoff solenoid
	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure	Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm + : 0.4	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm + : 0.4 Check	Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance ccm/10s +: 16.6
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm +-: 0.4 Check tolerance mm +-: 0.9	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance ccm/10s + : 16.6 Check tolerance
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance ccm/10s + : 16.6 Check tolerance ccm/10s + : 22.2
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm +-: 0.4 Check tolerance mm +-: 0.9	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance ccm/10s + : 16.6 Check tolerance ccm/10s + : 22.2 Shutoff solenoid
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance ccm/10s + : 16.6 Check tolerance ccm/10s + : 22.2
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance ccm/10s + : 16.6 Check tolerance ccm/10s + : 22.2 Shutoff solenoid
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200	Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance ccm/10s +: 16.6 Check tolerance ccm/10s +: 22.2 Shutoff solenoid Volt : 12 DELIVERY AND BREAKAWAY CHARACTERISTIC
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance ccm/10s + : 16.6 Check tolerance ccm/10s + : 22.2 Shutoff solenoid Volt : 12 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2100
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000 SV travel mm : 1.1	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance ccm/10s + : 16.6 Check tolerance ccm/10s + : 22.2 Shutoff solenoid Volt : 12 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2100 Aneroid pressure
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000 SV travel mm : 1.1 Tolerance mm + : 0.4	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance ccm/10s + : 16.6 Check tolerance ccm/10s + : 22.2 Shutoff solenoid Volt : 12 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2100 Aneroid pressure hPa : 1000
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000 SV travel mm : 1.1 Tolerance mm + : 0.4 Check	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance ccm/10s + : 16.6 Check tolerance ccm/10s + : 22.2 Shutoff solenoid Volt : 12 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2100 Aneroid pressure hPa : 1000 Del. quantity
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000 SV travel mm : 1.1 Tolerance mm + : 0.4 Check tolerance mm + : 0.4 Check tolerance mm + : 0.9	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance ccm/10s + : 16.6 Check tolerance ccm/10s + : 22.2 Shutoff solenoid Volt : 12 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 55.3
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000 SV travel mm : 1.1 Tolerance mm + : 0.4 Check	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance ccm/10s + : 16.6 Check tolerance ccm/10s + : 22.2 Shutoff solenoid Volt : 12 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2100 Aneroid pressure hPa : 1000 Del. quantity
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000 SV travel mm : 1.1 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12	Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance ccm/10s +: 16.6 Check tolerance ccm/10s +: 22.2 Shutoff solenoid Volt : 12 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 55.3 Tolerance cm3/1000 str. +: 3.0 Check tolerance
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000 SV travel mm : 1.1 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid	Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 100.0 Tolerance ccm/10s +: 16.6 Check tolerance ccm/10s +: 22.2 Shutoff solenoid Volt : 12 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 55.3 Tolerance cm3/1000 str. +: 3.0

Shutoff sclenoid Volt :	12	+	Shutoff solenoid Volt	:	12	
Rated speed rpm : Aneroid pressure	2400	1	Rated speed rpm Aneroid pressure	:	800	
hPa : Del. quantity	1000	<u>†</u>	hPa Del. quantity	:	1000	
cm3/1000 strokes : Check tolerance	7.5	<u> </u>	cm3/1000 strokes Tolerance	:	63.4	
cm3/1000s. +-: Shutoff solenoid	7.5	+	cm3/1000 str. +- Check tolerance	:	2.5	
Volt :	12	+	cm3/1000s. +- Shutoff solenoid	:	4.0	
Rated speed rpm : Aneroid pressure	800	+	Volt	:	12	
hPa :	300	+	Rated speed rpm Aneroid pressure	:	1400	
LDA/ HBA stroke mm :	7.0	‡	hPa Del. quantity	:	1000	
Del. quantity cm3/1000 strokes :	53.6	‡	cm3/1000 strokes Tolerance		63.6	
Tolerance cm3/1000 str. +-:	0.5	‡	cm3/1000 str. +- Check tolerance	:	0.5	
Check tolerance cm3/1000s. + : Shutoff solenoid	3.2	‡	cm3/1000s. +- Shutoff solenoid Volt	:	2.8 12	
Volt :	12	<u> </u>	VOCC	٠	12	
Rated speed rpm : Aneroid pressure	2000	+	ELECTR. SHUTOFF			
hPa : Del. quantity	1000	+	CONTROL LEVER, IDL	E S	TOP	
cm3/1000 strokes : Tolerance	62.1	 -	Rated speed rpm Del. quantity	:	300	
cm3/1000 str. +- : Check tolerance	2.0	‡	cm3/1000 strokes Tolerance		1.5	
cm3/1000s. +-: Shutoff solenoid	3.2	‡	cm3/1000 str. +- Check tolerance		1.5	
Volt :	12 800	‡	cm3/1000s. +-	:	1.5	
Rated speed rpm : Del. quantity cm3/1000 strokes :		Ī	IDLE DELIVERY			
Tolerance cm3/1000 str. +:	2.0	+	Rated speed rpm Del. quantity	:	500	
Check tolerance cm3/1000s. +-:	3.5	+	cm3/1000 strokes Tolerance	:	1.5	
Shutoff solenoid Volt :	12	‡	cm3/1000 str. +- Check tolerance	:	1.5	
Rated speed rpm :	1800	‡	cm3/1000s. +- Shutoff solenoid	:	1.5	
Aneroid pressure hPa :	1000	‡	Volt	:	12	
Del. quantity cm3/1000 strokes : Tolerance	62.0	Ī				
cm3/1000 str. + : Check tolerance	1.5	Ī				
cm3/1000s. +-:	3.5	‡	START TRANSITION			

Rared speed rpm : 350 Del. quantity

cm3/1000 strokes : 50.0

Tolerance

cm3/1000 str. +-: 20.0

Shutoff solenoid

12 Volt

150 Rated speed rpm

Del. quantity cm3/1000 strokes : 107.0

Tolerance

cm3/1000 str. + :25.0

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

7.0 HBA stroke mm : 3,3

Dimension K mm Tolerance mm + : 0,1

: 5,4 Dimension KF mm

Tolerance mm +: 0,2 MS1 dimension mn: : 1,25

Tolerance mm + : 0,15

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.08.96 Test oil : ISO 4113

Part no. : 0 460 414 080 Pump designation : VE4/11F1900R347-1

Customer—spec. information
Customer : LAND ROVER
Motor : 2,5L DI TCI
Power KW : 80.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 55
Tolerance °C +-: 1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 116

Opening pressure

bar : 207 Tolerance bar + : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1600 Aneroid pressure

hPa : 1000

Setting mm : 3.3
Tolerance mm + : 0.2
Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1600
Aneroid pressure
hPa : 1000
Supply pomp
pressure bar : 6.4
Tolerance bar +: 0.3
Shutoff solenoid
Volt : 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1400 Aneroid pressure hPa 1000 Del. quantity cm3/1000 strokes : 59.3 Tolerance cm3/1000 str. + :0.5 Spread cm3/1000 strokes : 3.0 Check tolerance cm3/1000s.4.0 Shutoff solenoid Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 36.0
Tolerance
cm3/1000 str. + : 0.5
Shutoff solenoid
Volt : 12
Check tolerance
cm3/1000s. : 4.0

IDLE SETTING

Volt

Rated speed rpm : 350
Del. quantity
cm3/1000 strokes : 12.0
Tolerance
cm3/1000 str. +-: 2.0
Shutoff solenoid

12

Spread	†
cm3/1000 strokes : 4.0	+ Rated speed rpm : 1850
Check tolerance	+ Aneroid pressure
cm3/1000s. : 4.0	+ hPa : 1000
	+ Supply pomp
	+ pressure bar : 7.2
	+ Tolerance bar +-: 0.3
	+ Shutoff solenoid
FULL-LOAD SPEED REGULATION	+ Volt : 12
	†
Rated speed rpm : 2000	+ Rated speed rpm : 1200
Pressure hPa : 1000	+ Aneroid pressure
Del. quantity	+ hPa : 1000
cm3/1000 strokes : 47.5	+ Supply pomp
Tolerance	+ pressure bar : 5.3
cm3/1000 str. +: 3.0	+ Tolerance bar + : 0.3
Shutoff solenoid	+ Shutoff solenoid
Volt : 12	† Volt : 12
OTANTINO FUEL ARITHMAN	1000
STARTING FUEL DELIVERY	+ Rated speed rpm : 1000
Dated award awar a 400	OUTS OU OUANTES
Rated speed rpm : 100	† OVERFLOW QUANTITY
Del. quantity cm3/1000 strokes : 105.0	Dated aread mm . 1950
Tolerance	+ Rated speed rpm : 1850
cm3/1000 str. +-: 25.0	+ Aneroid pressure
Shutoff solenoid	+ hPa : 1000
Volt : 12	+ Overflow quantity + ccm/10s : 152.7
. 12	
	+ Tolerance
	+ ccm/10s + : 27.7
	+
	Check tolerance
INJECTION-PUMP TEST SPECIFICATIONS	Check tolerance + ccm/10s +: 41.6
INJECTION-PUMP TEST SPECIFICATIONS	Check tolerance ccm/1Üs ←: 41.6 Shutoff solenoid
	Check tolerance + ccm/10s +: 41.6
INJECTION-PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC	Check tolerance ccm/1Üs → : 41.6 Shutoff solenoid Volt : 12
TIMING DEVICE CHARACTERISTIC	Check tolerance ccm/10s \(\to : \) 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800
TIMING DEVICE CHARACTERISTIC Rated speed rrm : 1850	Check tolerance ccm/10s : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure
TIMING DEVICE CHARACTERISTIC	Check tolerance ccm/10s - : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000
TIMING DEVICE CHARACTERISTIC Rated speed rrm : 1850 Aneroid pressure	Check tolerance ccm/10s : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure
TIMING DEVICE CHARACTERISTIC Rated speed rrm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8	Check tolerance ccm/10s \(\to : \) 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Areroid pressure hPa : 1000 Overflow quantity
TIMING DEVICE CHARACTERISTIC Rated speed rrm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm + : 0.4	Check tolerance ccm/10s ←: 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Areroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2
TIMING DEVICE CHARACTERISTIC Rated speed rrm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm + : 0.4 Check	Check tolerance ccm/10s \(-: \) 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Areroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s \(+: \) 16.6
TIMING DEVICE CHARACTERISTIC Rated speed rrm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm +-: 0.4 Check tolerance mm +-: 0.9	Check tolerance ccm/10s \(- : \) 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Areroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s \(+ : \) 16.6 Check tolerance
TIMING DEVICE CHARACTERISTIC Rated speed rrm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Areroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 16.6 Check tolerance ccm/10s + : 22.2
TIMING DEVICE CHARACTERISTIC Rated speed rrm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm +-: 0.4 Check tolerance mm +-: 0.9	Check tolerance ccm/10s \(- : \) 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s \(+ : \) 16.6 Check tolerance ccm/10s \(+ : \) 22.2 Shutoff solenoid
TIMING DEVICE CHARACTERISTIC Rated speed rrm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Areroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 16.6 Check tolerance ccm/10s + : 22.2
TIMING DEVICE CHARACTERISTIC Rated speed rrm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200	Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Areroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s +: 16.6 Check tolerance ccm/10s +: 22.2 Shutoff solenoid Volt : 12
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 16.6 Check tolerance ccm/10s + : 22.2 Shutoff solenoid
TIMING DEVICE CHARACTERISTIC Rated speed rrm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200	Check tolerance ccm/10s \(\dots \): 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Areroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s \(\dots \): 16.6 Check tolerance ccm/10s \(\dots \): 22.2 Shutoff solenoid Volt : 12 DELIVERY AND BREAKAWAY CHARACTERISTIC
TIMING DEVICE CHARACTERISTIC Rated speed rrm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000	Check tolerance ccm/10s \(- : \) 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Areroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s \(+ : \) 16.6 Check tolerance ccm/10s \(+ : \) 22.2 Shutoff solenoid Volt : 12 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2000
TIMING DEVICE CHARACTERISTIC Rated speed rrm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000 SV travel mm : 1.1	Check tolerance ccm/10s \(- : \) 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Areroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s \(+ : \) 16.6 Check tolerance ccm/10s \(+ : \) 22.2 Shutoff solenoid Volt : 12 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure
TIMING DEVICE CHARACTERISTIC Rated speed rrm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000 SV travel mm : 1.1 Tolerance mm + : 0.4	Check tolerance ccm/10s \(- : \) 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Areroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s \(+ : \) 16.6 Check tolerance ccm/10s \(+ : \) 22.2 Shutoff solenoid Volt : 12 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000 SV travel mm : 1.1 Tolerance mm + : 0.4 Check	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Areroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 16.6 Check tolerance ccm/10s + : 22.2 Shutoff solenoid Volt : 12 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 Del. quantity
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000 SV travel mm : 1.1 Tolerance mm + : 0.4 Check tolerance mm + : 0.4 Check tolerance mm + : 0.9	Check tolerance ccm/10s + : 41.6 Shutoff solenoid Volt : 12 Rated speed rpm : 800 Areroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 16.6 Check tolerance ccm/10s + : 22.2 Shutoff solenoid Volt : 12 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2000 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 47.5
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000 SV travel mm : 1.1 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid	Check tolerance ccm/1Üs
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000 SV travel mm : 1.1 Tolerance mm + : 0.4 Check tolerance mm + : 0.4 Check tolerance mm + : 0.9	Check tolerance ccm/10s
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1850 Aneroid pressure hPa : 1000 SV travel mm : 4.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1000 SV travel mm : 1.1 Tolerance mm + : 0.4 Check tolerance mm + : 0.9 Shutoff solenoid	Check tolerance ccm/1Üs

Shutoff solenoid Volt	:	12	‡	Aneroid pressure	:	1000	
Rated speed rpm Aneroid pressure	:	2200	<u> </u>	Del. quantity cm3/1000 strokes Tolerance	:	59.3	
hPa Del. quantity	:	1000	Ŧ	cm3/1000 str. +- Check tolerance	:	0.5	
cm3/1000 strokes Check tolerance	:	5.0	1	cm3/1000s. +- Shutoff solenoid	:	2.8	
cm3/1000s. +- Shutoff solenoid	:	5.0	+	Volt	:	12	
Volt	:	12	<u> </u>				
Rated speed rpm Aneroid pressure	:	008	‡	ELECTR. SHUTOFF CONTROL LEVER, ID	LE S	TOP	
hPa	:	300	. ‡	Rated speed rpm	:	300	
LDA/ HBA stroke mm Del. quantity	:	6.5	İ	Del. quantity cm3/1000 strokes Tolerance	:	1.5	
cm3/1000 strokes Tolerance	:	47.0		cm3/1000 str. +	:	1.5	
cm3/1000 str. +- Check tolerance	:	0.5	‡	IDLE DELIVERY			
cm3/1000s. +- Shutoff solenoid	:	3.2	+	Rated speed rpm	:	500	
Volt ,	;	12	‡	Dal. quantity cm3/1000 strokes	:	1.5	
Rated speed rpm Aneroid pressure	:	1850	‡	Tolerance cm3/1000 str. +-	:	1.5	
hPa Del. quantity	;	1000	†	Check tolerance cm3/1000S. +-	:	1.5	
cm3/100U strokes Tolerance		58.0	+	Shutoff solenoid Volt	:	12	
cm3/1000 str. + Check tolerance cm3/1000s. +		2.0 3.2	+				
cm3/1000S. +- Shurrorf solenoid Volt	•	12	Ī				
Rated speed rpm	:		$\frac{1}{1}$	START TRANSITION			
Del. quantity cm3/1000 strokes	•	42.5	Ī	Rated speed rpm		350	
Tolerance cm3/1000 str. +-		2.0	1	Del. quantity cm3/1000 strokes		50.0	
Shutoff solenoid Volt	:	12	+	Tolerance cm3/1000 str. +-		20.0	
Rated speed rpm	:	800	+	Shutoff solenoid Volt	:	12	
Aneroid pressure hPa	:	1000	‡				
Del. quantity cm3/1000 strokes	:	58.0	‡	Rated speed rpm Del. quantity		150	
Tolerance cm3/1000 str. +-	:	2.5	‡	cm3/1000 strokes Tolerance		107.0	
Shutoff solenoid Volt	:	12	‡	cm3/1000 str. +- Shutoff solenoid	:	25.0	
Rated speed rpm	:	1400	‡	Volt	:	12	
			•				

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 6.5

Dimension K mm : 3,3
Tolerance mm +: 0,1
Dimension KF mm : 5,4
Tolerance mm +: 0,2
MS1 dimension mm : 1,25
Tolerance mm +: 0,15

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 42,3..46,3

Control lever

position YB mm : 49,0..60,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23,08,96 Test oil : ISO 4113

: 0 460 426 216 Part no. Pump designation: VE6/12F1250R373-7

Customer-spec. information Customer : CDC

Motor : 6 BTA-590

TEST BENCH REQUIREMENTS

Overflow

restriction mm 0.55 :

Inlet press. bar : 0.35 Tolerance bar +-:

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 bar Tolerance bar +-: 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 1,85

Tolerance mm + : 0.02(0.06)

Outlet. : D

Prestroke

(as of UT) mm : 0,3 Tolerance mm +-: 0,02

Check

+-: 0,04 tolerance mm

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 750

Aneroid pressure

hPa 1000 :

Setting mm 1.5 Tolerance mm 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm 750

Aneroid pressure

hPa 1000

Supply pomp

pressure bar 3.5 Tolerance bar +-: 0.3

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 750 Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 85.0

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s.4.5

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 69.0

Tolerance

cm3/1000 str. + :0.5

Check tolerance

cm3/1000s. 4.5

IDLE SETTING

Rated speed rpm 375

Del. quantity

cm3/1000 strokes : 11.0

Tolerance

cm3/1000 str. + :

3.0

Spread

cm3/1000 strokes : 5.5

Check tolerance	7.0	+	Tolerance bar +-	:	0.3
cm3/1000s. :	7.0	+	Rated speed rpm	:	500
		Ŧ	Aneroid pressure hPa	:	1000
EUL - LOAD COEFA DECLU	ATTON	†	Subbly bomb		2 5
FULL-LOAD SPEED REGULA	ATTON	†	pressure bar	:	2.5
Rated speed rpm :	1300	T	Tolerance bar +-	•	0.3
Pressure hPa : Del. quantity	1000	Ī	OVERFLOW QUANTITY		
cm3/1000 strokes : Tolerance	62.0	1	Rated speed rpm Aneroid pressure	:	1250
cm3/1000 str. +-:	3.0	+	hPa	:	1000
STARTING FUEL DELIVER	Y	‡	Overflow quantity ccm/10s	:	97.2
	100	+	Tolerance		
Rated speed rpm : Del. quantity	100	‡	ccm/10s +-	:	41.6
cm3/1000 strokes :	90.0	+	Check tolerance		
Tolerance cm3/1000 str. +-:	30.0	†	ccm/10s +-	:	41.6
(IID/1009 Str. +	30.0	Ŧ	Rated speed rpm Overflow quantity		500
		Ī	ccm/10s Tolerance	:	62.5
		I	ccm/10s +-	•	20.8
INJECTION-PUMP TEST SE	PECIFICATIONS	+		•	20.0
		+	Check tolerance		
TIMING DEVICE CHARACTE	ERISTIC	†	ccm/10s +-	:	20.8
Rated speed rpm : Aneroid pressure	1050	+	DELIVERY AND BREAK	(AWA)	Y CHARACTERISTIC
hPa :	1000	Ī	Rated speed rpm Aneroid pressure	:	1300
SV travel mm :	2.6	I	hPa	•	1000
Tolerance mm +-:	0.4	1	Del. quantity	•	1000
Check tolerance mm +-:	0.7	1	cm3/1000 strokes Tolerance	:	62.0
		+	cm3/1000 str. +-	:	3.0
Rated speed rpm : Aneroid pressure	600	İ	Check tolerance cm3/1000s. +-		6.0
hPa :	1000	Ţ	CIID7 10003.	•	0.0
		+	Rated speed rpm	:	1400
SV travel mm :	0.8	†	Aneroid pressure		4000
Tolerance mm + :	0.4	Ī	hPa Del. quantity	:	1000
tolerance mm +-:	0.7	Ī	cm3/1000 strokes Tolerance	:	1.5
Rated speed rpm :	450	Ŧ	cm3/1000 str. +	:	1.5
KSB/AFB Volt :	12	Ŧ	Check tolerance cm3/1000s. +-	:	1.5
SUPPLY PUMP PRESSURE (CHARACTERISTIC	Ŧ	Rated speed rpm	:	1330
Rated speed rpm :	1050	I	Aneroid pressure hPa		1000
Aneroid pressure	1000	I	Del. quantity	•	1000
hPa :	1000	+	cm3/1000 strokes	:	35.0
Supply pomp pressure bar :	4.8	Į	Tolerance cm3/1000 str. +-	:	20.0

Charle dal arraga	1	T-1
Check tolerance cm3/1000s. +-:	20.0	Tolerance
cm3/1000S. +-:	20.0	cm3/1000 str. +: 1.5
Doted apped and	700	Check tolerance
Rated speed rpm :	700 +	cm3/1000s. +-: 1.5
Aneroid pressure	/00	•
hPa :	400	•
Del. quantity	70.0	751 m a m 71 m
cm3/1000 strokes :	78.0	IDLE DELIVERY
Tolerance	t t	
cm3/1000 str. +-:	0.5	Rated speed rpm : 500
Check tolerance	10	Del. quantity
cm3/1000s. +-:	4.0	cm3/1000 strokes : 2.0
Detail executions	4250	Tolerance
Rated speed rpm :	1250	cm3/1000 str. +-: 2.0
Aneroid pressure	1000	Check tolerance
hPa :	1000	cm3/1000s. +-: 2.0
Del. quantity cm3/1000 strokes :	70.0	Detect enced www. 425
Tolerance	78.0	Rated speed rpm : 125
cm3/1000 str. +-:	1.5	Del. quantity cm3/1000 strokes : 2.5
Check tolerance	1.3	cm3/1000 strokes : 2.5 Tolerance
cm3/1000s. +-:	3.0	
CIID7 10003. +-:	3.0	cm3/1000 str. +-: 2.5 Check tolerance
Rated speed rpm :	1050	cm3/1000s. +-: 2.5
Aneroid pressure	I	· CIIIO/ 10003 ; 2.5
hPa :	1000	
Del. quantity	I	•
cm3/1000 strokes :	81.5	•
Tolerance	I	•
cm3/1000 str. + :	1.5	,
Check tolerance	1	START TRANSITION
cm3/1000s. +-:	3.5	
	1	Rated speed rpm : 450
Rated speed rpm :	500	Del. quantity
Aneroid pressure	+	cm3/1000 strokes : 68.0
hPa :	1000	Tolerance
Del. quantity	+	cm3/1000 str. + : 20.0
cm3/1000 strokes :	87.0	
Tolerance	+	
cm3/1000 str. +-:	4.0	Rated speed rpm : 250
	+	Del. quantity
Rated speed rpm :	750 +	cm3/1000 strokes : 110.0
Aneroid pressure	t +	Tolerance
hPa :	1000	cm3/1000 str. +-: 25.0
Del. quantity	t +	
cm3/1000 strokes :	85.0	ACCOUNTY AND AD HIGHWAY A THENCHOLD
Tolerance	7.5	ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 str. + :	0.5	Nimousias Kr mm . F 3
Check tolerance cm3/1000s. +-:	3.0	Dimension KF mm : 5,2
Cili37 10003.	3.0 I	Tolerance mm + : 0,2 MS1 dimension mm : 1,5
		Tolerance mm +: 0,15
MECHANICAL SHUTOFF	I	SVS dimension mm : 1,5
	1	
Rated speed rpm :	1250	
Aneroid pressure		
	1000	CONTROL LEVER POSITION
Aneroid pressure	1000	CONTROL LEVER POSITION SET
Aneroid pressure hPa :	1000	
Aneroid pressure hPa : Del. quantity	+	

Control lever position YA mm

: 37,0..41,0

Control lever position YB mm : 43,7..48,9

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16.08.96 Edition : ISO 4113 Test oil

: 3 283 397 Part no.

Pump designation: VE4/12F1050R389-2A

Customer-spec. information

Customer : CDC

: 4 BT- 390 AUTOM. Motor

TEST BENCH REQUIREMENTS

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 bar Tolerance bar +-:

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,55

Tolerance mm + : 0.02(0.06)

Outlet : A

Prestroke

(as of UT) mm : 0,3 Tolerance mm +-: 0,02

Check

tolerance mm +-: 0.04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 750

Aneroid pressure

hPa 1000

Setting mm 3.6 Tolerance mm +-: 0.2

Shutoff solenoid

Volt 24

SUPPLY PUMP PRESSURE

Rated speed rpm 900

Aneroid pressure

hPa 1000

Shutoff solenoid

Volt 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1100

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 67.5

Tolerance

cm3/1000 str. +-: 0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 4.5

Shutoff solenoid

Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 49.0

Tolerance

cm3/1000 str. +: 0.5

Shutoff solenoid

Volt 24

Check tolerance

cm3/1000s.4.5

IDLE SETTING

Rated speed rpm : 360

Not guantity		1	Charle	
Del. quantity cm3/1000 strokes	: 17.0	Ī	Check tolerance mm +- :	0.7
Tolerance	. 17.0	I	Shutoff solenoid	0.7
cm3/1000 str. +-	; 3.0	I	Volt	24
Shutoff solenoid	, ,,,	1	VOCC	24
Volt	: 24	1	SUPPLY PUMP PRESSUE	RE CHARACTERISTIC
Spread	,	1		TE STANKING LENED 120
cm3/1000 strokes	; 5.5	+	Rated speed rpm	1050
Check tolerance		+	Aneroid pressure	
cm3/1000s.	: 7.0	+	hPa	1000
		+	Supply pomp	
		+	pressure bar	6.6
		+	Tolerance bar + :	0.3
TIN 1 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		†	Shutoff solenoid	
FULL-LOAD SPEED R	EGULATION	†	Volt	24
Dahad annal ann	. 4450	. †	Description of the control of the co	750
Rated speed rpm Pressure hPa	: 1150 : 1000	†		750
Del. quantity	. 1000	Ī	Aneroid pressure hPa	1000
cm3/1000 strokes	: 58.0	I	Supply pomp	1000
Tolerance	. 50.0	I	pressure bar	5.3
cm3/1000 str. +-	: 3.0	1	Tolerance bar +	
Shutoff solenoid		1	Shutoff solenoid	
Volt	: 24	+	Volt	24
		+		
STARTING FUEL DEL	IVERY	+		500
	400	+	Aneroid pressure	
Rated speed rpm	: 100	+	hPa	1000
Del. quantity	. 400.0	†	Supply pomp	
cm3/1000 strokes Tolerance	: 100.0	†	pressure bar	4.2
cm3/1000 str. 4-	: 40.0	Ī	Tolerance bar + : Shutoff solenoid	0.3
Shutoff solenoid	. 40.0	I	Volt	24
Volt	: 24	I	VOCC .	24
1011		1	OVERFLOW QUANTITY	
		1	OATULEON GOVILLELL	
		1	Rated speed rpm :	500
		+	Overflow quantity	
		 +	ccm/10s	62.5
INJECTION-PUMP TE	ST SPECIFICATIONS	+	Tolerance	
		+	ccm/10s +- :	20.8
TIMING DEVICE CHAP	RACTERISTIC	†		
Dated assed ass	: 1050	Ť	Check tolerance ccm/10s +-:	20.8
Rated speed rpm Aneroid pressure	: 1050	Ī	ccm/10s +- : Shutoff solenoid	20.0
hPa	: 1000	I	Volt :	24
111 9	. 1000	Ī	,	24
SV travel mm	: 5.1	1	DELIVERY AND BREAKA	WAY CHARACTERISTIC
Tolerance mm +	: 0.4	1		
Check		+	Rated speed rpm :	1150
tolerance mm +-	: 0.7	+	Aneroid pressure	
Shutoff solenoid	•	† –	hPa	1000
Volt	: 24	†	Del. quantity	50 6
Detail annual mus	. 500	†	cm3/1000 strokes	58.0
Rated speed rpm Aneroid pressure	: 500	†	Tolerance cm3/1000 str. +-:	3.0
hPa	: 1000	Ī	Check tolerance	J.U
in G	. 1000	Ī	cm3/1000s. +- :	6.0
SV travel mm	: 2.1	1	Shutoff solenoid	
Tolerance mm +-		+	Volt	24
		•		

		+ Shutoff solenoid
Rated speed rpm :	1120	+ Volt : 24
Aneroid pressure		
hPa :	1000	
Del. quantity	1000	
cm3/1000 strokes :	35,0	
	55,0	+ CONTROL LEVER, IDLE STOP
Check tolerance	20.0	† <u> </u>
cm3/1000s. +-:	20.0	+ Rated speed rpm : 375
Shutoff solenoid		† Del. quantity
Volt :	24	+ cm3/1000 strokes : 1.5
		+ Tolerance
Rated speed rpm :	1200	+ cm3/1000 str. +-: 1.5
Aneroid pressure	-	+ Check tolerance
hPa :	1000	+ cm3/1000s. +-: 1.5
Del. quantity	1000	1.9
cm3/1000 strokes :	1.5	Ţ
	1.5	TOLE DELTUEDY
Tolerance	4 5	† IDLE DELIVERY
cm3/1000 str. +-:	1.5	†
Check tolerance		+ Rated speed rpm : 420
cm3/1000s. +-:	1.5	+ Del. quantity
Shurtoff solenoid		+ cm3/100C strokes : 2.0
Volt :	24	+ Tolerance
		+ cm3/1000 str. +-: 2.0
Rated speed rpm :	5 00	+ Check tolerance
Aneroid pressure	300	+ cm3/1000s. +-: 2.0
hPa :	366	Shutoff solenoid
	200	
Del. quantity	/ 7 0	+ Volt : 24
cm3/1000 strokes :	63.0	†
Tolerance		†
cm3/1000 str. +-:	0.5	+
Check tolerance		+
cm3/1000s. +-:	4.0	}
Shutoff solenoid		i i i i i i i i i i i i i i i i i i i
Volt :	24	
	- •	T OLYMPITION
Rated speed rpm :	1100	Rated speed rpm : 230
	1100	
Angroid pressure	4000	+ Del. quantity
hPa :	1000	+ cm3/1000 strokes : 40.0
Del. quantity		† Tolerance
cm3/1000 strokes :	67.5	+ cm3/1000 str. +-: 20.0
Tolerance		+ Shutoff solenoid
cm3/1000 str. +-:	0.5	† Volt : 24
Check tolerance		+
cm3/1000s. +-:	3.0	+
Shutoff solenoid		+ Rated speed rpm : 130
Volt :	24	Del. quantity
,	•	+ cm3/1000 strokes : 100.0
		Tolerance
MECHANICAL CULTOES		
MECHANICAL SHUTOFF		+ cm3/1000 str. +-: 40.0
	4050	+ Shutoff solenoid
Rated speed rpm :	1050	† Volt : 24
Aneroid pressure		†
hPa :	1000	
Del. quantity		+ ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes :	1.5	+
Tolerance		Dimension KF mm : 5,2
cm3/1000 str. +-:	1.5	+ Tolerance mm +-: 0,2
Check tolerance		Dimension MS mm : 1,2
	1.5	Tolerance mm +-: 0,2
cm3/1000s. +-:	1.5	
		+ SVS dimension mm : 2,5

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 42,3..47,8

BOSCH INJ. PUMP TE	EST SPECIFICATIONS
Note remarks	
Refer to Service I adjustment instruc See microcard(s) W	ctions.
Editian Test oil	: 04.09.96 : ISO 4113
Part no. Pump designation	: 0 460 426 085 : VE6/12F1300R241
Customer-spec. inf Customer Motor	formation : PERKINS : T6 60
TEST BENCH REQUIRE	EMENTS
Calibrating—oil return temperature °C +-	: 45 : 1
Overflow restriction mm	: 0.55
Inlet press. bar Tolerance bar +-	: 0.35 : 0.05
Test nozzle holde assembly	: 1 688 901 020
Opening pressure bar Tolerance bar +-	: 172 : 3
Test lines	: 1 680 750 000
Outside diameter	: 6.00
x inside diameter x length mm	: 2.00 : 840

Customer-spec. inf Customer Motor	formation : PERKINS : T6 60
TEST BENCH REQUIRE	EMENTS
Calibrating—oil return temperature °C Tolerance °C +	: 45 : 1
Overflow restriction mm	: 0.55
Inlet press. bar Tolerance bar +-	: 0.35 : 0.05
Test nozzle holde mssembly	: 1 688 901 020
Opening pressure bar Tolerance bar +-	: 172 : 3
Test lines	: 1 680 750 000
Outside diameter	: 6.00
x inside diameter x length mm	: 2.00 : 840
REMARKS	
BEGINNING OF DELIV	/ERY
Start of delivery	blocking

Plunger stroke mm Outlet	: 1,0 : C	
Prestroke		
(as of UT) mm Tolerance mm +- Check	: 0,3 : 0,02	
tolerance mm +-	: 0,04	
INJECTION PUMP SE	IING VALUES	
TIMING DEVICE TRA	EL	
Rated speed rpm Aneroid pressure	: 1100	
hPa	: 1000	
Setting mm Tolerance mm	2.3	
Shutoff solenoid Volt	24	
SUPPLY PUMP PRESSI	RE	
Rated speed rpm	: 1100	
Aneroid pressure hPa Supply pomp	: 1000	
pressure bar Tolerance bar +-	7.5 0.3	
Shutoff solenoid Volt	: 24	
FULL-LOAD DELIVER	WITH BOOST PRESSU	RE
Rated speed rpm Aneroid pressure	: 1000	
hPa	: 1000	
Del. quantity cm3/1000 strokes	92.5	
Tolerance cm3/1000 str. +-	: 0.5	
Spread cm3/1000 strokes	: 3.5	
Check tolerance cm3/1000s.	: 4.0	
Shutoff solenoid Volt	: 24	
FULL-LOAD DELIV.	ITHOUT BOOST PRESS	URE
Rated speed rpm Del. quantity	: 700	
cm3/1000 strokes Tolerance	: 79.0	
cm3/1000 str. +- Shutoff solenoid	: 1.5	
Volt	: 24	

Check tolerance cm3/1000s. : 4.0	+ Rated speed rpm : 950 + Aneroid pressure
IDLE SETTING	hPa : 1000
70CC 0C1 11140	SV travel mm : 0.8
Rated speed rpm : 350 Del. quantity	Tolerance mm + : 0.3
cm3/1000 strokes : 15.0 Tolerance	tolerance mm +: 0.7 Shutoff solenoid
cm3/1000 str. +-: 2.0 Shutoff solenoid	+ Volt : 24
Volt : 24 Spread	SUPPLY PUMP PRESSURE CHARACTERISTIC
cm3/1000 strokes : 3.5 Check tolerance	Rated speed rpm : 1300 Aneroid pressure
cm3/1000s. : 4.0	† hPa : 1000
	+ Supply pomp + pressure bar : 8.3 + Tolerance bar + : 0.3 - Shutoff solenoid
FULL-LOAD SPEED REGULATION	Volt: : 24
Rated speed rpm : 1400 Pressure hPa : 1000	Rated speed rpm : 700 Aneroid pressure
ซ้อl. quantity cm3/1000 strokes : 55.0	hPa : 1000
Tolerance cm3/1000 str. +-: 3.0	pressure bar : 5.8 Tolerance bar + : 0.3
Shutoff solenoid Volt : 24	Shutoff solenoid Volt : 24
	+
STARTING FUEL DELIVERY	+ OVERFLOW QUANTITY
Rated speed rpm : 100 Del. quantity	Rated speed rpm : 1300 Aneroid pressure
cm3/1000 strokes : 110.0 Tolerance	hPa : 1000 - Overflow quantity
cm3/1000 str. +-: 20.0 Shutoff solenoid	ccm/10s : 97.2 Tolerance
Volt : 24	ccm/10s +-: 27.7
	Check tolerance ccm/10s + : 27.7 Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATIONS	Volt : 24
TIMING DEVICE CHARACTERISTIC	Rated speed rpm : 500 Aneroid pressure
Rated speed rpm : 1300	hPa : 1000 + Overflow quantity
Aneroid pressure hPa : 1000	ccm/10s : 63.8 Tolerance
SV travel mm : 3.3	ccm/10s +-: 22.2
Tolerance mm + : 0.4	Check tolerance
Check tolerance mm + : 0.7	+ ccm/10s + : 22.2 + Shutoff solenoid
Shutoff solenoid Volt : 24	+ Volt : 24
	DELIVERY AND BREAKAWAY CHARACTERISTIC

		1 01 1 55 1 11
Rated speed rpm : Aneroid pressure	1400	+ Shutoff solenoid + Volt : 24
hPa : Del. quantity	1000	Rated speed rpm : 700 Aneroid pressure
cm3/1000 strokes : Tolerance	55.0	+ hPa : 1000
cm3/1000 str. +-: Check tolerance	3.0	Del. quantity cm3/1000 strokes : 91.0
cm3/1000s. +-: Shutoff solenoid	6.0	+ Tolerance + cm3/1000 str. +-: 1.5
Volt :	24	theck tolerance cm3/1000s. +: 3.5
Rated speed rpm :	1480	+ Shutoff solenoid + Volt : 24
Aneroid pressure hPa :	1000	Rated speed rpm : 500
Del. quantity cm3/1000 strokes :	16.0	Del. quantity + cm3/1000 strokes : 70.5
Check tolerance cm3/1000s. +: Shutoff solenoid	10.0	+ Tolerance + cm3/1000 str. +-: 1.5
Volt :	24	+ Check tolerance + cm3/1000s. +: 3.5
Rated speed rpm : Aneroid pressure	1530	+ Shutoff solenoid + Volt : 24
hPa : Del. quantity	1000	Rated speed rpm : 1000 Aneroid pressure
cm3/1000 strokes : Tolerance	1.5	+ hPa : 1000 + Del. quantity
cm3/1000 str. +-:	1.5	cm3/1000 strokes : 92.5
cm3/1000s. + : Shutoff solenoid	1.5	+ cm3/1000 str. ÷ : 0.5 + Check tolerance
Volt :	24	cm3/1000s. +: 3.0 Shutoff solenoid
Rated speed rpm : Aneroid pressure	700	Volt : 24
hPa :	350	MECHANICAL SHUTOFF
LDA/		T PECHANICAL SHOTOFF
HBA stroke mm : Del. quantity	6.8	Rated speed rpm : 1300 Aneroid pressure
cm3/1000 strokes : Tolerance	82.5	hPa : 1000 Del. quantity
cm3/1000 str. + : Check tolerance	0.5	cm3/1000 strokes : 1.5 Tolerance
cm3/1000s. +: Shutoff solenoid	3.5	+ cm3/1000 str. +-: 1.5 + Check tolerance
Volt :	24	cm3/1000s. +: 1.5 Shutoff solenoid
Rated speed rpm : Aneroid pressure	1300	Volt : 24
hPa : Del. quantity	1000	ELECTR. SHUTOFF
cm3/1000 strokes : Tolerance	84.5	CONTROL LEVER, IDLE STOP
cm3/1000 str. +-: Check tolerance	1.5	Rated speed rpm : 350 Del. quantity
cm3/1000s. +-:	3.5	cm3/1000 strokes : 1.5

Tolerance		+	Del. quantity
cm3/1000 str. +	; 1.5	+	cm3/1000 strokes : 120.0
Check tolerance		+	Tolerance
cm3/1000s. +-	: 1.5	+	cm3/1000 str. +-: 20.0
Spread		1	Shutoff solenoid
cm3/1000 strokes	: 5.0	1	Volt : 24
	, ,,,,	1	
FULL-LOAD STOP CON	UTPOL LEVER	1	
TOLE LOAD STOT COL	ALLIOC CEACIL	\mathbf{I}	ASSEMBLY AND ADJUSTMENT DIMENSIONS
Rated speed rpm	: 350	I	ASSELIBET MAN ANDOSTRIETAT NTILIETASTOMS
	, 300	T	
Del. quantity	. 45	T	104/
cm3/1000 strokes	: 1.5	T	LDA/
Tolerance	4.5	†	HBA stroke mm : 6.8
cm3/1000 str. +-	: 1.5	†	Dimension KF mm : KOT
Spread		+	Dimension MS mm : 0,95
cm3/1000 strokes	: 5.0	. 🕇	Tolerance mm + : 0,15
Check tolerance		+	SVS dimension mm : 0,6
cm3/1000s. +-	: 1.5	+	
Spread		+	
cm3/1000 strokes	: 5.0	+	
 		1	CONTROL LEVER POSITION
IDLE DELIVERY		1	SET
TOCK DECIVENT		<u>1</u>	021
Rated speed rpm	: 400	$\overline{\Gamma}$	
Del. quantity	. 400	T	Control lever
cm3/1000 strokes	: 7.0	Ţ	
	: 7.0	Ť	position YA mm : 37,239,2
Tolerance	7.0	Ť	
cm3/1000 str. +	: 3.0	†	Control lever
Check tolerance		†	position YB mm : 44,953,5
cm3/1000s. +-	: 5.0	+	
Shutoff salenoid		+	
Volt	: 24	+	
		+	
Rated speed rpm	: 450	+	End of test-specification sheet
Del. quantity		1	·
cm3/1000 strokes	: 1.5	1	
Tolerance		1	
cm3/1000 str. +-	: 1.5	1	
Check tolerance	•	1	
cm3/1000s. +-	: 1.5	1	
Shutoff solenoid	. 1.0	I	
Volt	: 24	I	
VOCE	. 64.	T	
		Ť	
		†	
		†	
		†	
		†	
		†	
START TRANSITION		+	
		+	
Rated speed rpm	: 265	+	
Del. quantity		+	
cm3/1000 strokes	: 55.0	1	
Tolerance	- - • -	1	
cm3/1000 str. +	: 15.0	1	
Shutoff solenoid		1	
Volt	: 24	1	
TO C C	. 6-7	\mathbf{I}	
		I	
Dated cheed and	: 150	T	
Rated speed rpm	: 150	†	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.09.96 : ISO 4113 Test oil

: 0 460 426 177 Part no. Pump designation : VE6/12F1050R381-7

Customer-spec. information Customer : CUMMINS

: 6BT- 5.9 IND. Motor

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature *C 45 Tolerance °C +:

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

bar 250 Tolerance bar + :

Test lines : 1 680 750 000

Outside diameter : 6.00

2.00 x inside diameter : x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,5

Tolerance mm +: 0,02(0,06): D

Outlet

Prestroke

(as of UT) mm: 0,3 Tolerance mm + : 0.02

Check

tolerance mm +-:0.04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 750

Setting mm 3.6 Tolerance mm 0.2

Shutoff solenoid

24 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm : 750 Supply pomp

pressure bar 4.0 Tolerance bar +-: 0.3

Shutoff solenoid

24 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 750

Del. quantity

cm3/1000 strokes : 73.5

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 4.5

Shutoff solenoid

Volt 24

IDLE SETTING

Rated speed rpm : 375

Del. quantity

cm3/1000 strokes : 11.0

Tolerance

cm3/1000 str. + :3.0

Shutoff solenoid

24 Volt

Spread

cm3/1000 strokes : 7.0

Check tolerance

cm3/1000s.7.0 :

FULL-LOAD SPEED REGULATION	Shutoff solenoid Volt : 24
Rated speed rpm : 1100 Del. quantity	OVERFLOW QUANTITY
cm3/1000 strokes : 55.0	Rated speed rpm : 1050 Overflow quantity
cm3/1000 str. +: 3.0 Shutoff solenoid	ccm/10s : 75.0 Tolerance
Volt : 24	ccm/10s +: 27.7
STARTING FUEL DELIVERY	Check tolerance ccm/10s +-: 27.7
Rated speed rpm : 100 + Del. quantity	Shutoff solenoid Volt : 24
cm3/1000 strokes : 90.0	
cm3/1000 str. + : 30.0	Rated speed rpm : 500 Overflow quantity ccm/10s : 55.5
Volt : 24	Tolerance
†	ccm/10s +-: 16.6
‡	Check tolerance ccm/10s +: 16.6
INJECTION-PUMP TEST SPECIFICATIONS	Shutoff solenoid Volt : 24
TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm : 1050	Rated speed rpm : 1100 Dal. quantity
SV travel mm : 5.4 Tolerance mm +-: 0.4	cm3/1000 strokes : 55.0 Tolerance
Check tolerance mm + : 0.7	cm3/1000 str. +-: 3.0 Check tolerance
Shutoff solenoid Volt : 24	cm3/1000s. +-: 6.0 Shuroff solenoid
+	Volt : 24
+	Rated speed rpm : 1130
SV travel mm : 1.7 Tolerance mm ÷-: 0.4	Del. quantity cm3/1000 strokes : 30.0
Check tolerance mm +-: 0.7	Check tolerance cm3/1000s. +-: 15.0
Shutoff solenoid + Volt : 24 +	Shutoff solenoid Volt : 24
SUPPLY PUMP PRESSURE CHARACTERISTIC	Rated speed rpm : 1200
Rated speed rpm : 1050	Del. quantity cm3/1000 strokes : 1.5
Supply pomp pressure bar : 5.2	Tolerance cm3/1000 str. + : 1.5
Tolerance bar +: 0.3 Shutoff solenoid	Check tolerance cm3/1000s. +: 1.5
Volt : 24	Shutoff solenoid Volt : 24
Rated speed rpm : 500 + Supply pomp	Rated speed rpm : 1050
pressure bar : 2.9 Tolerance bar +: 0.3	Del. quantity cm3/1000 strokes : 70.5

Tolerance +	Check tolerance
cm3/1000 str. +-: 1.5 +	cm3/1000s. +-: 1.5
Check tolerance +	
cm3/1000s. +-: 3.0 +	FULL-LOAD STOP CONTROL LEVER
Shutoff solenoid +	
Volt : 24	Rated speed rpm : 375
+	Del. quantity
Rated speed rpm : 900	cm3/1000 strokes : 1.5
Del. quantity	Tolerance
cm3/1000 strokes : 73.5	cm3/1000 str. +-: 1.5
Tolerance + 2.0 +	Check tolerance
cm3/1000 str. +: 2.0 + Check tolerance +	cm3/1000s. + : 1.5
cm3/1000s. +: 4.0	IDLE DELIVERY
Shutoff solenoid	TALE AELIAEKI
Volt : 24	Rated speed rpm : 450
1	Del. quantity
Rated speed rpm : 500	cm3/1000 strokes : 2.0
Del. quantity	Tolerance
cm3/1000 strokes : 56.0	cm3/1000 str. +-: 2.0
Tolerance +	Check tolerance
cm3/1000 str. +-: 4.0	cm3/1000s. +-: 2.0
Check tolerance	Shutoff solenoid
cm3/1000s. +: 6.0	Volt : 24
Shutoff solenoid + Volt : 24 +	
· · · · I	
Rated speed rpm : 750	
Del. quantity	
cm3/1000 strokes : 73.5	
Tolerance	START TRANSITION
cm3/1000 str. +: 0.5	- · · · · · · · · · · · · · · · · · · ·
Check tolerance	Rated speed rpm : 240
cm3/1000s. +-: 3.0 +- Shutoff solenoid +-	Del. quantity cm3/1000 strokes : 40.0
Volt : 24	Tolerance
. 27	cm3/1000 str. +-: 15.0
	Shutoff solenoid
MECHANICAL SHUTOFF	Volt : 24
+	
Rated speed rpm : 1050	
Del. quantity	Rated speed rpm : 130
cm3/1000 strokes : 1.5	Del. quantity cm3/1000 strokes : 100.0
cm3/1000 str. +: 1.5 +	Tolerance
Check tolerance	cm3/1000 str. +-: 30.0
cm3/1000s. + : 1.5	Shutoff solenoid
Shutoff solenoid +	Volt : 24
Volt : 24 +	
+	A CONTROL AND AND AND AND AND AND AND AND AND AND
ELECTO CHITTOES	ASSEMBLY AND ADJUSTMENT DIMENSIONS
ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP	Dimension KF mm : 5,2
Total Tree of the control of the con	Tolerance mm + : 0,2
Rated speed rpm : 375	Dimension MS mm : 1,0
Del. quantity	Tolerance mm + : 0,2
cm3/1000 strokes : 1.5	SVS dimension mm : 1,6
Tolerance	
cm3/1000 str. +-: 1.5	
+	

CONTROL LEVER POSITION SET

Control lever

: 34,8..38,8 position YA mm

Control lever position YB mm : 40,7..46,3

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06,09,96 Test oil : ISO 4113

Part no. : 0 460 426 200 Pump designation : VE6/12F1100R381-8

Customer-spec. information : CDC Customer

: 6BT- 5.9 IND. Motor

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 bar Tolerance bar +-:

Test Lines : 1 680 750 000

Outside diameter : 6.00

2.00 x inside diameter: x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,5

Tolerance mm + : 0.02(0.06)

Outlet

Prestroke

(as of UT) mm : 0,3 +: 0,02 Tolerance mm

Check

tolerance mm + : 0.04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 750

Setting mm 3.5 Tolerance mm 0.2

Shutoff solenoid

24 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 750 Supply pomp

pressure bar 3.8 Tolerance bar +: 0.3

Shutoff solenoid

Valt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

1100 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 50.0

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes :

Shutoff solenoid

Volt 24

IDLE SETTING

Rated speed rpm : 375

Del. quantity

cm3/1000 strokes : 20.0

Tolerance

cm3/1000 str. + :3.0

Shutoff solenoid

24 Volt

Spread

5.5

cm3/1000 strokes :

Check tolerance 7.0 cm3/1000s.

Rated speed rpm : 1150 Del. quantity cm3/1000 strokes : 36.5 Tolerance cm3/1000 str. +: 3.0 Shutoff solenoid Volt : 24 Check tolerance ccm/10s +: 27.7 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : 70.0 Shutoff solenoid Volt : 24 INJECTION-PUMP TEST SPECIFICATIONS	+	Shutoff solenoid
Del. quantity cm3/1000 strokes : 36.5 Tolerance cm3/1000 str. +: 3.0 STARTING FUEL DELIVERY Rated speed rpm : 100 Cm3/1000 strokes : 75.0 STARTING FUEL DELIVERY Rated speed rpm : 100 Cm3/1000 strokes : 70.0 Tolerance cm/10s +: 27.7 Rated speed rpm : 100 Cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. +: 20.0 Shutoff solenoid Volt : 24 Tolerance cm/10s +: 55.5 Tolerance cm/10s +: 16.6 Check tolerance cm/10s +: 16.6 Thine tolerance cm/10s +: 16.6 Shutoff solenoid Volt : 24 TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1100 SV travel mm : 6.5 Tolerance am +: 0.4 Check tolerance cm3/1000 strokes : 36.5 Tolerance mm +: 0.7 Check tolerance cm3/1000 strokes : 30.0 Check tolerance cm3/1000 strokes : 30.0 SV travel mm : 1.7 Tolerance mm +: 0.4 Check tolerance cm3/1000 strokes : 30.0 SV travel mm : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1160 SV travel mm : 0.7 Tolerance mm +: 0.7 Tolerance mm +: 0.7 Tolerance mm +: 0.7 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1200 Del. quantity cm3/1000 strokes : 30.0 Check tolerance cm3/1000 strokes : 30.0 Check tolerance cm3/1000 strokes : 30.0 Check tolerance cm3/1000 strokes : 1.5 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1200 Del. quantity cm3/1000 strokes : 1.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1.5 Check tolerance cm3/1000 strokes : 1.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1.5 Shutoff solenoid Volt : 24 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 1.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1.5 Del. quantity cm3/1000 strokes : 1.5 Del. quantity cm3/1000 strokes : 1.5 Del. quantity cm3/1000 strokes : 1.5 Del. quantity cm3/1000 strokes : 1.5 Del. quantity cm3/	FULL-LOAD SPEED REGULATION	Volt : 24
cm3/1000 strokes : 36.5 Rated speed rpm : 1100 Tolerance cm3/1000 str. +: 3.0 cm/10s : 75.0 Shutoff solenoid Volt : 24 cm/10s +: 27.7 STARTING FUEL DELIVERY Check tolerance cm/10s +: 27.7 Rated speed rpm : 100 bel. quantity cm3/1000 strokes : 70.0 Check tolerance cm/10s +: 27.7 Shutoff solenoid Volt : 24 Volt : 24 Volt solenoid Volt : 24 Check tolerance cm/10s +: 55.5 Cm3/1000 str. +: 20.0 overflow quantity cm/10s +: 16.6 Check tolerance cm/10s +: 16.6 INLECTION—PUMP TEST SPECIFICATIONS Tolerance cm/10s +: 16.6 INLECTION—PUMP TEST SPECIFICATIONS Volt : 24 TIMING DEVICE CHARACTERISTIC DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1100 Rated speed rpm : 1150 Rated speed rpm : 0.4 Check tolerance cm/3/1000 strokes : 36.5 Tolerance mm +: 0.4 Check tolerance cm/3/1000 strokes : 30.5 Check tolerance cm/3/1000 strokes : 30.0 Check tolerance cm/3/1000 strokes : 30.0 Check tolerance cm/3/1000 strokes : 30.0 Check tolerance cm/3/1000 strokes : 30.0 Volt : 24 Shutoff solenoid Volt : 24 Volt ravel mm : 1.7 Del. quantity cm/3/1000 strokes : 30.0		OVERFLOW QUANTITY
cm3/1000 str. ←: 3.0 Shutoff solenoid Volt : 24 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity Com3/1000 strokes : 70.0 Tolerance Ccm/10s ←: 27.7 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Tolerance Ccm/10s ←: 55.5 Shutoff solenoid Volt : 24 Tolerance Ccm/10s ←: 16.6 Rated speed rpm : 500 Overflow quantity Ccm/10s ←: 16.6 Check tolerance Ccm/10s ←: 16.6 Shutoff solenoid Volt : 24 TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1100 SV travel mm : 6.5 Tolerance mm ←: 0.4 Check Tolerance mm ←: 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1150 SV travel mm : 6.5 Tolerance mm ←: 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1160 SV travel mm : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1160 SV travel mm : 1.7 Tolerance mm ←: 0.4 Check tolerance cm3/1000 strokes : 36.5 Tolerance mm ←: 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1150 SV travel mm : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1160 SV travel mm : 1.7 Tolerance mm ←: 0.4 Check tolerance cm3/1000s trokes : 30.0 Check tolerance cm3/1000s trokes : 30.0 Check tolerance cm3/1000s trokes : 30.0 Check tolerance cm3/1000s trokes : 30.0 Check tolerance cm3/1000s trokes : 30.0 Check tolerance cm3/1000s trokes : 30.0 Check tolerance cm3/1000s trokes : 30.0 Check tolerance cm3/1000s trokes : 15.0 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1200 Del. quantity cm3/1000s trokes : 1.5 Tolerance bar +: 0.3 Shutoff solenoid Volt : 24 Supply pomp Pressure bar : 5.4 Tolerance bar +: 1.5 Check tolerance cm3/1000s trokes : 1.5 Tolerance cm3/1000s trokes : 1.5 Tolerance cm3/1000s trokes : 1.5 Tolerance cm3/1000s trokes : 1.5 Tolerance cm3/1000s trokes : 1.5 Tolerance cm3/1000s trokes : 1.5 Tolerance cm3/1000s trokes : 1.5 Tolerance cm3/1000s trokes : 1.5 Tolerance cm3/1000s trokes : 1.5 Tolerance cm3/1000s trokes : 1.5 Tolerance cm3/1000s trokes : 1.5 Tolerance cm3/1000s trokes : 1.5 Tolerance cm3/1000s trokes : 1.5 Tolerance cm3/1000s trokes : 1.5 Tolerance cm3/1000s trokes		Rated speed rpm : 1100 Overflow quantity
Volt		ccm/10s : 75.0
Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : 24 Rated speed rpm : 500 Part of the speed rpm : 500 Rated speed rpm : 500 Overflow quantity ccm/10s		* · · · · · · · · · · · · · · · · · · ·
Rated speed rpm 100	STARTING FUEL DELIVERY	
cm3/1000 strokes : 70.0 70.0 Tolerance cm3/1000 str, +: 20.0 0verflow quantity ccm/10s : 55.5 Shutoff solenoid Volt : 24 16.6 INJECTION-PUMP TEST SPECIFICATIONS Check tolerance ccm/10s +: 16.6 INJECTION-PUMP TEST SPECIFICATIONS DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1100 Rated speed rpm : 1150 Del. quantity SV travel mm : 6.5 cm3/1000 strokes : 36.5 Tolerance mm +: 0.4 tolerance cm3/1000 str. +: 3.0 Check tolerance cm3/1000 str. +: 3.0 check tolerance cm3/1000 str. +: 3.0 Volt solenoid Volt : 24 Shutoff solenoid Volt : 24 SV travel mm : 1.7 Del. quantity Tolerance mm +: 0.4 cm3/1000 str. +: 3.0 Check tolerance cm3/1000s. +: 6.0 Shutoff solenoid Volt : 24 SV travel mm : 1.7 Del. quantity Tolerance mm +: 0.4 cm3/1000 strokes : 30.0 Check tolerance cm3/1000 strokes : 30.0 check tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 24 Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1200 Del. quantity Rated speed rpm : 5.4 cm3/1000 str. +: 1.5 Tolerance bar : 5.4 cm3/1000 str. +: 1.5 Tole		Shutoff solenoid
cm3/1000 str.	cm3/1000 strokes : 70.0	_,
Volt	cm3/1000 str. +: 20.0	Overflow quantity
Check tolerance ccm/10s		Tolerance
Ccm/10s	‡	
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1100 SV travel mm : 6.5 Tolerance mm +: 0.4 Check tolerance mm +: 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1160 Del. quantity cm3/1000 strokes : 36.5 Tolerance cm3/1000 str. +: 3.0 Check tolerance cm3/1000s +: 6.0 Shutoff solenoid Volt : 24 Rated speed rpm : 1160 SV travel mm : 1.7 Tolerance mm +: 0.4 Check Check tolerance cm3/1000s +: 1160 Del. quantity cm5/1000 strokes : 30.0 Check tolerance cm3/1000s. +: 15.0 Shutoff solenoid Volt : 24 Supply PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Shutoff solenoid Volt : 24 Supply PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000 str. +: 1.5 Supply pomp pressure bar : 5.4 Tolerance bar +: 0.3 Shutoff solenoid Volt : 24 Rated speed rpm : 1.5 Shutoff solenoid Volt : 24 Rated speed rpm : 750 Del. quantity cm3/1000s 1.5 Check tolerance cm3/1000s 1.5 Check toler		ccm/10s + : 16.6
Rated speed rpm : 1100	INJECTION—PUMP TEST SPECIFICATIONS	Volt : 24
Del. quantity Cm3/1000 strokes 36.5 Tolerance mm + : 0.4 Tolerance mm + : 0.4 Tolerance mm + : 0.7 Check tolerance Cm3/1000 str. + : 3.0 Check tolerance Cm3/1000S. + : 6.0 Shutoff solenoid Volt : 24 Check tolerance Che	TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
SV travel mm	Rated speed rpm : 1100	
Check tolerance mm +: 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 500 SV travel mm : 1.7 Tolerance mm +: 0.4 Check tolerance Shutoff solenoid Volt : 24 Rated speed rpm : 1160 SV travel mm : 1.7 Tolerance mm +: 0.4 Check tolerance mm +: 0.7 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1200 Del. quantity Rated speed rpm : 1100 Supply pomp pressure bar : 5.4 Tolerance bar +: 0.3 Shutoff solenoid Volt : 24 Rated speed rpm : 1.5 Tolerance cm3/1000s trokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Supply pomp Pressure bar : 5.4 Check tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Supply pomp Pressure bar : 5.4 Check tolerance cm3/1000s +: 1.5 Shutoff solenoid Volt : 24 Rated speed rpm : 750 Poel. quantity Rated speed rpm : 750 Poel. quantity		cm3/1000 strokes : 36.5
Shutoff solenoid Volt : 24	Check	cm3/1000 str. + : 3.0
Rated speed rpm : 500 SV travel mm : 1.7 Tolerance mm +: 0.4 Check tolerance mm +: 0.7 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1200 Del. quantity Check tolerance Tolerance mm +: 0.7 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1200 Del. quantity cm3/1000 strokes : 1.5 Supply pomp pressure bar : 5.4 Tolerance bar +: 0.3 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Shutoff solenoid Volt : 24 Rated speed rpm : 750 PRESSURE CHARACTERISTIC Rated speed rpm : 1.5 Supply pomp pressure bar : 5.4 Rated speed rpm : 500 Supply pomp pressure bar : 2.7	Shutoff solenoid +	$cm3/1000s. \leftarrow : 6.0$
Rated speed rpm : 1160	+	
Tolerance mm +: 0.4 Check tolerance mm +: 0.7 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1100 Rated speed rpm : 1100 Supply pomp pressure bar : 5.4 Tolerance bar +: 0.3 Shutoff solenoid Volt : 24 Rated speed rpm : 1.5 Tolerance bar +: 0.3 Shutoff solenoid Volt : 24 Rated speed rpm : 750 Supply pomp Pressure bar : 5.4 Rated speed rpm : 500 Supply pomp Pressure bar : 500 Supply pomp Pressure bar : 2.7	+	
tolerance mm +: 0.7 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1100 Supply pomp pressure bar : 5.4 Tolerance bar +: 0.3 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Supply pomp pressure bar : 5.4 Rated speed rpm : 500 Supply pomp Pressure bar : 2.7 Rated speed rpm : 750 Del. quantity Rated speed rpm : 750 Del. quantity	Tolerance mm +: 0.4	cm5/1000 strokes : 30.0
Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance bar : 5.4 Tolerance bar +: 0.3 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Supply pomp pressure bar : 5.7 Rated speed rpm : 750 Rated speed rpm : 750 Del. quantity Rated speed rpm : 750 Del. quantity	tolerance mm +: 0.7	cm3/1000s. + : 15.0
Rated speed rpm : 1100		
Rated speed rpm : 1100	SUPPLY PUMP PRESSURE CHARACTERISTIC	
pressure bar : 5.4 cm3/1000 str. +: 1.5 Tolerance bar +: 0.3 check tolerance Shutoff solenoid Volt : 24 shutoff solenoid Volt : 24 Rated speed rpm : 500 Supply pomp pressure bar : 2.7 Rated speed rpm : 750 pressure bar : 2.7	· · · · · · · · · · · · · · · · · · ·	cm3/1000 strokes : 1.5
Shutoff solenoid Volt : 24 Rated speed rpm : 500 Supply pomp pressure bar : 2.7 Cm3/1000s. +: 1.5 Shutoff solenoid Volt : 24 Rated speed rpm : 750 Del. quantity	pressure bar : 5.4	cm3/1000 str. +-: 1.5
Rated speed rpm : 500 Supply pomp pressure bar : 2.7 Volt : 24 Rated speed rpm : 750 pel. quantity	Shutoff solenoid +	cm3/1000s. + : 1.5
Supply pomp + Rated speed rpm : 750 pressure bar : 2.7 + Del. quantity	+	
pressure bar : 2.7 + Del. quantity	Supply pomp	
	pressure bar : 2.7	

Tolerance	+ Check tolerance
cm3/1000 str. +-: 1.5 Check tolerance	cm3/1000s. +: 1.5
cm3/1000s. +-: 3.5	IDLE DELIVERY
Shutoff solenoid Volt : 24	Rated speed rpm : 480
Rated speed rpm : 500	+ Del. quantity + cm3/1000 strokes : 1.5
Del. quantity	+ Tolerance
cm3/1000 strokes : 33.0 Tolerance	+ cm3/1000 str. +: 1.5 + Check tolerance
cm3/1000 str. +-: 4.0 Check tolerance	cm3/1000s. +: 1.5 Shutoff solenoid
cm3/1000s. + : 6.0	Volt : 24
Shutoff solenoid Volt : 24	‡
Rated speed rpm : 1100	‡
Del. quantity	+
cm3/1000 strokes : 50.0 Tolerance	START TRANSITION
cm3/1000 str. +-: 0.5 Check tolerance	Rated speed rpm : 375
cm3/1000s. +-: 3.0 Shutoff solenoid	Del. quantity - cm3/1000 strokes : 30.0
Volt : 24	+ Tolerance
	+ cm3/1000 str. +: 10.0 + Shutoff solenoid
MECHANICAL SHUTOFF	+ Volt : 24
Rated speed rpm : 1100	1
Del. quantity cm3/1000 strokes : 1.5	ASSEMBLY AND ADJUSTMENT DIMENSIONS
Tolerance cm3/1000 str. +-: 1.5	+ Dimension KF mm : 5,2
Check tolerance	+ Tolerance mm + : 0,2
cm3/1000s. +-: 1.5 Shutoff solenoid	Dimension MS mm : 1,2 Tolerance mm + : 0,2
Volt : 24	SVS dimension mm : 1,7
	+
ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP	CONTROL LEVER POSITION
Rated speed rpm : 375	SET
Del. quantity cm3/1090 strokes : 1.5	Control lever
Tolerance	position YA mm : 34,838,8
cm3/1000 str. +-: 1.5 Check tolerance	Control lever
cm3/1000s. +-: 1.5	position YB mm : 30,744,7
FULL-LOAD STOP CONTROL LEVER	
Rated speed rpm : 375	
Del. quantity cm3/1000 strokes : 1.5	+ End of test-specification sheet
Tolerance	1
cm3/1000 str. + : 1.5	

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.08.96 Test oil : ISO 4113

Part no. : 3 282 241

Pump designation : VE6/12F1250R498D

Customer—spec. information Customer : CDC

Motor : 6 BTAA 5.9B

TEST BENCH REQUIREMENTS

Calibrating-oil

return

remperature °C : 45
Tolerance °C +-: 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 109

Opening pressure

bar : 207 Tolerance bar +- : 3

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x Length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,4

Tolerance mm +: 0,02(0,06)

Outlet : D

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000 Aneroid pressure hPa : 1070

Setting mm : 1.7
Tolerance mm + : 0.2
Shutoff solenoid

Shutoff solenoid Volt

SUPPLY PUMP PRESSURE

Volt

Rated speed rpm : 1000
Aneroid pressure
hPa : 1070
Supply pomp
pressure bar : 6.6
Tolerance bar +-: 0.3
Shutoff solenoid

FULL-LOAD DELIVERY WITH BOOST PRESSURE

24

24

Rated speed rpm 1100 Aneroid pressure 700 hPa Del. quantity cm3/1000 strokes : 86.5 Tolerance cm3/1000 str. + :0.5 Spread cm3/1000 strokes : 5.0 Check tolerance 5.0 cm3/1000S.Shutoff solenoid Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm : Del. quantity 72.7 cm3/1000 strokes : Tolerance 0.5 cm3/1000 str. + :Spread cm3/1000 strokes 5.0 Shutoff solenoid 24 Volt Check tolerance 6.0 cm3/1000S. Check tolerance cm3/1000s.5.0

		+ Aneroid pressure	
IDLE SETTING		+ hPa - Shutoff solenoid	: 1070
Rated speed rpm Del. quantity	: 350	Volt	: 24
cm3/1000 strokes Tolerance	: 10.5	Rated speed rpm	: 450
cm3/1000 str. + Shutoff solenoid	: 2.0	SV travel mm Tolerance mm +-	: 2.4 : 0.5
Volt Spread	: 24	+ Check + tolerance mm +-	
cm3/1000 strokes Check tolerance	: 5.5	Shutoff solenoid Volt	: 24
cm3/1000s.	: 7.0	KSB/AFB Volt	: 24
		Rated speed rpm	: 850
FULL-LOAD SPEED RI	EGULATION	Aneroid pressure hPa	: 1070
		+	
Rated speed rpm Pressure hPa	: 1380 : 1070	+ SV travel mm + Tolerance mm +	: 0.7 : 0.4
Del. quantity cm3/1000 strokes Tolerance	: 51.6	+ Check + tolerance mm + - Shutoff solenoid	: 0.7
cm3/1000 str. +- Shutoff solenoid	: 3.0	- Volt	: 24
Volt	: 24.	SUPPLY PUMP PRESSU	URE CHARACTERISTIC
STARTING FUEL DEL	IVERY	Rated speed rpm Aneroid pressure	: 1250
Rated speed rpm Del. quantity	: 100	+ hPa + Supply pomp	: 1070
cm3/1000 strokes Tolerance	: 85.0	+ pressure bar + Tolerance bar +-	: 7.6 : 0.3
cm3/1000 str. +- Shutoff solenoid	: 15.0	Shutoff solenoid	: 24
Volt	: 24	Rated speed rpm	
		+ Aneroid pressure + hPa	
		+ Supply pomp	
INJECTION-PUMP TE	ST SPECIFICATIONS	<pre>pressure bar Tolerance bar + Shutoff solenoid</pre>	
TIMING DEVICE CHAR	RACTERISTIC	- Volt	: 24
Rated speed rpm Aneroid pressure	: 1250	Rated speed rpm Aneroid pressure	: 500
hPa	: 1070	hPa Supply pomp	: 1070
SV travel mm Tolerance mm +	: 2.4 : 0.4	pressure bar Tolerance bar	
Check tolerance mm +-		Shutoff solenoid Volt	: 24
Shutoff solenoid Volt	: 24	OVERFLOW QUANTITY	<u> </u>
Rated speed rpm	: 500	Rated speed rpm	: 500
		T	

Overflow quantity		+ Ameroid pressure	
ccm/10s : Tolerance	63.8	hPa : 460 Del. quantity	
ccm/10s +-:	22.2	- cm3/1000 strokes : 89.4 Tolerance	
Check tolerance ccm/10s +:	22.2	cm3/1000 str. +-: 0.5 Check tolerance	
Shutoff solenoid Volt :	24	+ cm3/1000s. $+-$: 4.0	
		+ Shutoff solenoid + Volt : 24	
Rated speed rpm : Aneroid pressure	1250	Rated speed rpm : 1250	
hPa : Overflow quantity	1070	+ Aneroid pressure + hPa : 1070	
ccm/10s : Tolerance	77.7	Del. quantity cm3/1000 strokes : 84.5	
ccm/10s +:	27.7	+ Tolerance + cm3/1000 str. +-: 1.5	
Check tolerance ccm/10s +-:	27.7	+ Check tolerance - cm3/1000s. +-: 3.0	
Shutoff solenoid Volt :	24	+ Shutoff solenoid + Volt : 24	
DELIVERY AND BREAKAWA	Y CHARACTERISTIC	Rated speed rpm : 750	
Rated speed rpm :	1380	+ Aneroid pressure + hPa : 1070	
Aneroid pressure hPa	1070	Del. quantity cm3/1000 strokes : 86.6	
Del. quantity cm3/1000 strokes :	51.6	+ Tolerance - cm3/1000 str. + : 5.0	
Tolerance cm3/1000 str. +:	3.0	+ Shutoff solenoid + Volt : 24	
Check tolerance cm3/1000s. +-:	6.0	Rated speed rpm : 1100	
Shutoff solenoid Volt :	24	+ Aneroid pressure + hPa : 700	
Rated speed rpm :	1420	Del. quantity cm3/1000 strokes : 86.5	
Aneroid pressure hPa :	1070	Tolerance cm3/1000 str. +: 0.5	
Del. quantity cm3/1000 strokes :	20.0	Check tolerance cm3/1000s. +: 3.0	
Check tolerance cm3/1000s. + :	10.0	+ Shutoff solenoid + Volt : 24	
Shutoff solenoid Volt :	24	MEGUALIZAN GUNIZAES	
Rated speed rpm :	1485	MECHANICAL SHUTOFF	
Aneroid pressure hPa :	1070	+ Rated speed rpm : 1250 + Aneroid pressure	
Del. quantity cm3/1000 strokes :	1.5	+ hPa : 1070 - Del. quantity	
Tolerance cm3/1000 str. +-:	1.5	+ cm3/1000 strokes : 1.5 + Tolerance	
Check tolerance cm3/1000s. +:	1.5	+ cm3/1000 str. +-: 1.5 - Check tolerance	
Shutoff solenoid Volt :	24	+ cm3/1000s. +-: 1.5 + Shutoff solenoid	
Rated speed rpm :	500	† Volt : 24	

ELECTR. SHUTOFF CONTROL LEVER, ID	LE STOP
Rated speed rpm	; 350
Del. quantity cm3/1000 strokes	: 1.5
Tolerance	
cm3/1000 str. +- Check tolerance	: 1.5
cm3/1000s. +-	: 1.5
FULL-LOAD STOP COM	NTROL LEVER
Rated speed rpm Del. quantity	: 350
cm3/1000 strokes	: 1.5
Tolerance cm3/1000 str. +-	: 1.5
IDLE DELIVERY	
	: 410
Del. quantity cm3/1000 strokes	: 1.5
Tolerance cm3/1000 str. ~	: 1.5
Check tolerance	: 1.5
cm3/1000s. +- Shutoff solenoid	
Volt	: 24
START TRANSITION	
Rated speed rpm	: 240
Del. quantity cm3/1000 strokes	: 80.0
Tolerance cm3/1000 str. +-	: 15.0
Shutoff solenoid Volt	•
VULL	: 24
Rated speed rpm	: 130
Del. quantity cm3/1000 strokes	: 95.0
Tolerance cm3/1000 str. +-	: 20.0
Shutoff solenoid Volt	: 24
VOCE	. 24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm	:	3,7
Tolerance mm +-	:	0,1
Dimension KF mm	:	6,4
Tolerance mm +	:	0,2
MS1 dimension mm	:	1,35
Tolerance mm +-		0,15
SVS dimension mm	:	3,1

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 43,8..49,6

	1
BOSCH INJ. PUMP TEST SPECIFICATIONS	Rated speed rpm : 1600 Aneroid pressure
Note remarks	hPa : 1000
Refer to Service Info for test and adjustment instructions. See microcard(s) W400/	Setting mm : 3.6 Tolerance mm + : 0.2 Shutoff solenoid
	Volt : 12
Edition : 08.10.96 Test oil : ISO 4113	SUPPLY PUMP PRESSURE
Part no. : 0 460 414 099 Pump designation : VE4/11F2000R509-1	Rated speed rpm : 1600 Aneroid pressure
	hPa : 1000 + Supply pomp
Customer-spec. information	pressure har 6.8
Customer : ROVER	+ pressure bar : 6.8 + Tolerance bar + : 0.3
Motor : GEMINI 3 EGR	- Shutoff solenoid
Power KW : 83.0	Volt : 12
TEST BENCH REQUIREMENTS	FULL-LOAD DELIVERY WITH BOOST PRESSURE
	Rated speed rpm : 1400
Calibrating-oil	+ Aneroid pressure
return	+ hPa : 1000
temperature °C : 55	+ Del. quantity + cm3/1600 strokes : 66.2
Overflow	Tolerance : 66.2
restriction mm : 0.75	+ cm3/1000 str. + : 0.5
	Spread
	+ cm3/1000 strokes : 3.0
Inlet press. bar : 0.35	+ Check tolerance
Tolerance bar +: 0.05	+ cm3/1000S. : 4.0 + Shutoff solenoid
	+ Volt : 12
Test nozzle holde	+
assembly : 1 688 901 116	FULL-LOAD DELIV. WITHOUT BOOST PRESSURE
Opening pressure	Rated speed rpm : 500
bar : 207	+ Del. quantity
Tolerance bar +-: 3	+ cm3/1000 strokes : 37.8
	+ Tolerance + cm3/1000 str. + : 0.5
Test lines : 1 680 750 073	+ Shutoff solenoid
	+ Volt : 12
Outside diameter : 6.00	Check tolerance
x inside diameter : 2.00	t cm3/1000s. : 4.0
x inside diameter: 2.00 x length mm : 450	IDLE SETTING
n songer mm (TDG	-
	Rated speed rpm : 350
REMARKS	+ Del. quantity
	+ cm3/1000 strokes : 11.5 + Tolerance
	- cm3/1000 str. +-: 2.0
	+ Shutoff solenoid
INJECTION PUMP SETTING VALUES	† Volt : 12
	Spread
TIMING DEVICE TRAVEL	+ cm3/1000 strokes : 4.0

Check tolerance cm3/1000s. : 4.5	Check tolerance mm + : 0.9 Shutoff solenoid Volt : 12
FULL-LOAD SPEED REGULATION	Rated speed rpm : 1400 Aneroid pressure
Rated speed rpm : 2200 Pressure hPa : 1000	hPa : 1000
Del. quantity cm3/1000 strokes : 52.5	SV travel mm : 2.1 Tolerance mm +-: 0.4 Check
Tolerance + 2.0	tolerance mm +-: 0.9 Shutoff solenoid
Shutoff solenoid	Volt : 12
STARTING FUEL DELIVERY	SUPPLY PUMP PRESSURE CHARACTERISTIC
Rated speed rpm : 100	Rated speed rpm : 2000 Aneroid pressure
Del. quantity cm3/1000 strokes : 98.0	hPa : 1000 Supply pemp
Tolerance cm3/1000 str. +: 1.0	pressure bar : 8.0 Tolerance bar + : 0.3
Shutoff solenoid Volt : 12	Shutoff solenoid Volt : 12
SET GRADUATED STARTING DELIVERY CONTROL LEVER, IDLE STOP	Rated speed rpm : 1400 Aneroid pressure
Rated speed rpm : 2000	hPa : 1000 Supply pomp
Tolerance + 0.5	pressure bar : 6.1 Tolerance bar + : 0.3
Shutoff solenoid Volt : 12	Shutoff solenoid Volt : 12
SETTING GRAD. STARTING FUEL DELIVERY	Rated speed rpm : 1000
FULL-LOAD STOP CONTROL LEVER	OVERFLOW QUANTITY
Rated speed rpm : 100 Del. quantity	Rated speed rpm : 500
cm3/1000 strokes : 45.0	Aneroid pressure hPa : 1000
cm3/1000 str. + : 1.0 + Shutoff solenoid	Overflow quantity ccm/10s : 77.7
Volt : 12	Tolerance
	Check tolerance
INJECTION—PUMP TEST SPECIFICATIONS	ccm/10s + : 22.2 Shutoff solenoid
TIMING DEVICE CHARACTERISTIC	Volt : 12
Rated speed rpm : 2000 Aneroid pressure	Rated speed rpm : 2000 Aneroid pressure
hPa : 1000	hPa : 1000 Overflow quantity
SV travel mm : 6.4 Tolerance mm + : 0.4	ccm/10s : 125.0 Tolerance
+	ccm/10s + : 41.6

) Dal grantite
Check tolerance		† Del. quantity † cm3/1000 strokes : 65.2
ccm/10s +:	41.6	+ Tolerance
Shutoff solenoid		+ cm3/1000 str. + : 2.0
Volt :	12	† Check tolerance
		+ cm3/1000s. + : 3.0
DELIVERY AND BREAKA	WAY CHARACTERISTIC	+ Shutoff solenoid
Rated speed rpm :	2200	† Volt : 12
Aneroid pressure	2200	Rated speed rpm : 900
hPa :	1000	+ Aneroid pressure
Del. quantity		+ hPa : 1000
cmJ/1000 strokes :	52.5	+ Del. quantity
Tolerance	2.0	+ cm3/1000 strokes : 63.3
cm3/1000 str. +-: Check tolerance	2.0	+ Tolerance + cm3/1000 str. +-: 2.5
cm3/1000s. +-:	4.5	Check tolerance
Shutoff solenoid	,	+ cm3/1000s. +-: 4.0
Volt :	12	+ Shutoff solenoid
		+ Volt : 12
Rated speed rpm :	2400	+
Aneroid pressure hPa :	1000	- Rated speed rpm : 1400
Del. quantity	1000	+ Aneroid pressure + hPa : 1000
cm3/1000 strokes :	16.0	Del. quantity
Check tolerance	10.0	+ cm3/1000 strokes : 66.2
cm3/1000s. +-:	6.0	Tolerance
Shutoif solenoid		+ cm3/1000 str. + : 0.5
Volt :	12	Check tolerance
Rated speed rpm :	2600	+ cm3/1000s. +: 2.5 + Shutoff solenoid
Aneroid pressure	2000	+ Volt : 12
hPa :	1000	- i-
hPa : Del. quantity	1000	,
Del. quantity cm3/1000 strokes :	1000 1.5	<u> </u>
Del. quantity cm3/1000 strokes : Tolerance	1.5	ELECTR. SHUTOFF
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-:		ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance	1.5 1.5	CONTROL LEVER, IDLE STOP
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-:	1.5	CONTROL LEVER, IDLE STOP Rated speed rpm : 350
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance	1.5 1.5	CONTROL LEVER, IDLE STOP
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt :	1.5 1.5 1.5 12	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm :	1.5 1.5 1.5 12	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure	1.5 1.5 1.5 12 800	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm :	1.5 1.5 1.5 12	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa :	1.5 1.5 1.5 12 800	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure	1.5 1.5 1.5 12 800	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s: Shutoff solenoid Volt: Rated speed rpm: Aneroid pressure hPa: LDA/ HBA stroke mm: Del. quantity	1.5 1.5 1.5 12 800 300	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt: Rated speed rpm: Aneroid pressure hPa: LDA/ HBA stroke mm: Del. quantity cm3/1000 strokes:	1.5 1.5 1.5 12 800 300	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt: Rated speed rpm: Aneroid pressure hPa: LDA/ HBA stroke mm: Del. quantity cm3/1000 strokes: Tolerance	1.5 1.5 1.5 12 800 300 6.4 48.0	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt: Rated speed rpm: Aneroid pressure hPa: LDA/ HBA stroke mm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-:	1.5 1.5 1.5 12 800 300	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt: Rated speed rpm: Aneroid pressure hPa: LDA/ HBA stroke mm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance	1.5 1.5 1.5 12 800 300 6.4 48.0 0.5	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt: Rated speed rpm: Aneroid pressure hPa: LDA/ HBA stroke mm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-:	1.5 1.5 1.5 12 800 300 6.4 48.0	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt: Rated speed rpm: Aneroid pressure hPa: LDA/ HBA stroke mm: Del. cuantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +:	1.5 1.5 1.5 12 800 300 6.4 48.0 0.5	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Spread
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s: Shutoff solenoid Volt: Rated speed rpm: Aneroid pressure hPa: LDA/ HBA stroke mm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt:	1.5 1.5 1.5 12 800 300 6.4 48.0 0.5 3.2	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt: Rated speed rpm: Aneroid pressure hPa: LDA/ HBA stroke mm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt: Rated speed rpm:	1.5 1.5 1.5 12 800 300 6.4 48.0 0.5 3.2	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s: Shutoff solenoid Volt: Rated speed rpm: Aneroid pressure hPa: LDA/ HBA stroke mm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt:	1.5 1.5 1.5 12 800 300 6.4 48.0 0.5 3.2	CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0

Spread cm3/1000 strokes : 5.0 IDLE DELIVERY Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-:1.5 Check tolerance cm3/1000S.1.5 Shutoff solenoid 12 Volt EXHAUST-GAS RECIRCULATION Rated speed rpm 1000 Aneroid pressure hPa 1000 Del. quantity cm3/1000 strokes : 39.0 Tolerance cm3/1000 str. + :1.0 Check tolerance cm3/1000S.3.0 Shutoff solenoid Volt 12 START TRANSITION Rated speed rpm 350 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + :20.0 Shutoff solenoid Volt 12 Rated speed rpm 200 Del. quantity cm3/1000 strokes : 115.0 Tolerance cm3/1000 str. + :25.0 Shutoff solenoid Volt 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS

Tolerance mm + : 0,1
Dimension KF mm : 8,4
Tolerance mm + : 0,2
MS1 dimension mm : 1,45
Tolerance mm + : 0,15

CONTROL LEVER POSITION

Control lever

position YA mm : 42,3..46,3

Control lever

position YB mm : 50,0..61,0

End of test-specification sheet

LDA/

HBA stroke mm : 6.4 Dimension K mm : 3,3

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.10.96 Test oil : ISO 4113

Part no. : 0 460 414 079 Pump designation: VE4/11F1900L217-5

Customer-spec. information Customer : PENTA Motor : TMD 31 B Power KW 74.0

TEST BENCH REQUIREMENTS

Calibrating-oil return

temperature °C Tolerance °C +-:

Overflow

restriction mm : 0.55

0.35 Inlet press. bar : Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 Tolerance bar +-:

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0.3Tolerance mm +-:0.02

Check

tolerance mm +-: 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Aneroid pressure

hPa 1000

3.5 Setting mm Tolerance mm 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm : 1500

Aneroid pressure

hPa 1000

Supply pomp pressure bar 6.7 Tolerance bar + : 0.3

FULL-LOAD DELIVERY WITH BOOST PRESSURE

64.5

Rated speed rpm : 1500

Aneroid pressure

1000

Del. quantity cm3/1000 strokes :

Tolerance cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 5.0

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 650

Del. quantity

cm3/1000 strokes : 47.0

Tolerance

cm3/1000 str. + :0.5

Check tolerance

cm3/1000s. 5.0

IDLE SETTING

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 20.0

Tolerance

cm3/1000 str. +-: 1.0

Spread

cm3/1000 strokes : 3.5

check tolerance tm3/1000s. : 3.5	Aneroid pressure hPa : 1000
I	Supply pomp pressure bar : 4.4
1	Tolerance bar +-: 0.3
FULL-LOAD SPEED REGULATION	OVERFLOW QUANTITY
Rated speed rpm : 2000 + Pressure hPa : 1000 +	Rated speed rpm : 650 Overflow quantity
Del. quantity cm3/1000 strokes : 42.0	ccm/10s : 63.8 Tolerance
Tolerance + cm3/1000 str. + : 2.0	ccm/10s +-: 22.2
STARTING FUEL DELIVERY	Check tolerance ccm/10s +-: 22.2
+	
Rated speed rpm : 100 + Del. quantity +	Rated speed rpm : 1900 Aneroid pressure
cm3/1000 strokes : 108.0	hPa : 1000
Tolerance + cm3/1000 str. +-: 15.0 +	Overflow quantity ccm/10s : 83.3
+	Tolerance
+	ccm/10s +-: 27.7
İ	Check tolerance
	ccm/10s +-: 27.7
INJECTION—PUMP TEST SPECIFICATIONS	
	DELIVERY AND BREAKAWAY CHARACTERISTIC
TIMING DEVICE CHAPACTERISTIC	
TIMING DEVICE CHARACTERISTIC +	Rated speed rpm : 2000
Rated speed rpm : 1900	Aneroid pressure
+	Aneroid pressure hPa : 1000 Del. quantity
Rated speed rpm : 1900 + Aneroid pressure	Aneroid pressure hPa : 1000
Rated speed rpm : 1900 Aneroid pressure hPa : 1000 SV travel mm : 4.7 Tolerance mm +-: 0.4	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 42.0 Tolerance cm3/1000 str. +-: 2.0
Rated speed rpm : 1900 Aneroid pressure hPa : 1000 SV travel mm : 4.7	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 42.0 Tolerance
Rated speed rpm : 1900 Aneroid pressure hPa : 1000 SV travel mm : 4.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 1300	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 42.0 Tolerance cm3/1000 str. +- : 2.0 Check tolerance cm3/1000s. +- : 4.0 Rated speed rpm : 2150
Rated speed rpm : 1900 Aneroid pressure hPa : 1000 SV travel mm : 4.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 42.0 Tolerance cm3/1000 str. +- : 2.0 Check tolerance cm3/1000s. +- : 4.0 Rated speed rpm : 2150 Aneroid pressure hPa : 1000
Rated speed rpm : 1900 Aneroid pressure hPa : 1000 SV travel mm : 4.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 1300 Aneroid pressure hPa : 1000 SV travel mm : 2.0	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 42.0 Tolerance cm3/1000 str. + : 2.0 Check tolerance cm3/1000s. + : 4.0 Rated speed rpm : 2150 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5
Rated speed rpm : 1900 Aneroid pressure hPa : 1000 SV travel mm : 4.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 1300 Aneroid pressure hPa : 1000 SV travel mm : 2.0 Tolerance mm + : 0.4 Check	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 42.0 Tolerance cm3/1000 str. + : 2.0 Check tolerance cm3/1000s. + : 4.0 Rated speed rpm : 2150 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5
Rated speed rpm : 1900 Aneroid pressure hPa : 1000 SV travel mm : 4.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 1300 Aneroid pressure hPa : 1000 SV travel mm : 2.0 Tolerance mm + : 0.4 Check tolerance mm + : 0.7	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 42.0 Tolerance cm3/1000 str. + : 2.0 Check tolerance cm3/1000s. + : 4.0 Rated speed rpm : 2150 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance
Rated speed rpm : 1900 Aneroid pressure hPa : 1000 SV travel mm : 4.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 1300 Aneroid pressure hPa : 1000 SV travel mm : 2.0 Tolerance mm + : 0.4 Check	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 42.0 Tolerance cm3/1000 str. +- : 2.0 Check tolerance cm3/1000s. +- : 4.0 Rated speed rpm : 2150 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +- : 1.5 Check tolerance cm3/1000s. +- : 1.5
Rated speed rpm : 1900 Aneroid pressure hPa : 1000 SV travel mm : 4.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 1300 Aneroid pressure hPa : 1000 SV travel mm : 2.0 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1900	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 42.0 Tolerance cm3/1000 str. + : 2.0 Check tolerance cm3/1000s. + : 4.0 Rated speed rpm : 2150 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Rated speed rpm : 900 Aneroid pressure
Rated speed rpm : 1900 Aneroid pressure hPa : 1000 SV travel mm : 4.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 1300 Aneroid pressure hPa : 1000 SV travel mm : 2.0 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 42.0 Tolerance cm3/1000 str. +- : 2.0 Check tolerance cm3/1000s. +- : 4.0 Rated speed rpm : 2150 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +- : 1.5 Check tolerance cm3/1000s. +- : 1.5 Rated speed rpm : 900
Rated speed rpm : 1900 Aneroid pressure hPa : 1000 SV travel mm : 4.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 1300 Aneroid pressure hPa : 1000 SV travel mm : 2.0 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1900 Aneroid pressure hPa : 1000 Supply pomp	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 42.0 Tolerance cm3/1000 str. + : 2.0 Check tolerance cm3/1000s. + : 4.0 Rated speed rpm : 2150 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Rated speed rpm : 900 Aneroid pressure hPa : 260 LDA/
Rated speed rpm : 1900 Aneroid pressure hPa : 1000 SV travel mm : 4.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 1300 Aneroid pressure hPa : 1000 SV travel mm : 2.0 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1900 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 8.0	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 42.0 Tolerance cm3/1000 str. + : 2.0 Check tolerance cm3/1000s. + : 4.0 Rated speed rpm : 2150 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Rated speed rpm : 900 Aneroid pressure hPa : 260 LDA/ HBA stroke mm : 6.3
Rated speed rpm : 1900 Aneroid pressure hPa : 1000 SV travel mm : 4.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 1300 Aneroid pressure hPa : 1000 SV travel mm : 2.0 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1900 Aneroid pressure hPa : 1000 Supply pomp	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 42.0 Tolerance cm3/1000 str. + : 2.0 Check tolerance cm3/1000s. + : 4.0 Rated speed rpm : 2150 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Rated speed rpm : 900 Aneroid pressure hPa : 260 LDA/

Check tolerance		+ Del. quantity
cm3/1000s. +-:	3.0	cm3/1000 strokes : 1.5 Tolerance
Rated speed rpm : Aneroid pressure	1900	cm3/1000 str. +-: 1.5 Check tolerance
hPa : Del. quantity	1000	cm3/1000s. +: 1.5
cm3/1000 strokes : Tolerance	63.0	Rated speed rpm : 400 Del. quantity
cm3/1000 str. +-: Check tolerance	1.5	+ cm3/1000 strokes : 7.5 + Tolerance
cm3/1000s. +-:	3.0	cm3/1000 str. +-: 3.0 Check tolerance
Rated speed rpm : Aneroid pressure	800	cm3/1000s. +-: 6.0
hPa : Del. quantity	1000	1
cm3/1000 strokes : Tolerance	65.5	<u> </u>
cm3/1000 str. +:	2.5	START TRANSITION
Rated speed rpm : Aneroid pressure	1500	Rated speed rpm : 500
hPa : Del. quantity	1000	Del. quantity cm3/1000 strokes : 60.0
cm3/1000 strokes : Tolerance	64.5	Tolerance + cm3/1000 str. +-: 10.0
cm3/1000 str. +-: Check tolerance	0.5	
cm3/1000s. +-:	2.3	Rated speed rpm : 400 Del. quantity
MECHANICAL SHUTOFF		
Rated speed rpm :	1900	+ cm3/1000 str. +-: 10.0
Del. quantity cm3/1000 strokes :	1.5	ASSEMBLY AND ADJUSTMENT DIMENSIONS
Tolerance cm3/1000 str. +-:	1.5	‡
Check tolerance cm3/1000s. +-:	1.5	+ LDA/ + HBA stroke mm : 6.3 + Dimension KF mm : 5,4
ELECTR CULTAGE		Tolerance mm +: 0,2 Dimension MS mm : 1,3
ELECTR. SHUTOFF CONTROL LEVER, IDLE	STOP	Tolerance mm +: 0,2
Rated speed rpm : Del. quantity	350	<u> </u>
cm3/1000 strokes : Tolerance	1.5	CONTROL LEVER POSITION SET
cm3/1000 str. +-: Check tolerance	1.5	
cm3/1000s. + : Shutoff solenoid	1.5	Control lever position YA mm : 37,239,2
Volt :	12	+ Control lever
IDLE DELIVERY		position YB mm : 53,061,0
Rated speed rpm :	450	‡

B10

BOSCH INJ. PUMP T	EST SPECIFICATIONS	
Note remarks		
Refer to Service adjustment instru See microcard(s)	ctions.	
Edition Test oil	: 02.10.96 : ISO 4113	
Part no. Pump designation	: 0 460 426 218 : VE6/12F1950L527	
Customer-spec. in Customer Motor Power KW	formation : PENTA : TAMD 41 P : 155.0	
TEST BENCH REQUIR	EMENTS	
Calibrating-oil return temperature °C +-	: 55 : 1	
Overflow restriction mm	: 0.75	
Inlet press. bar Tolerance bar +-	: 0.35 : 0.05	
Test nozzle holde assembly	: 1 688 901 110	
Opening pressure bar Tolerance bar +	: 250 : 3	
Test lines	: 1 680 750 000	
Outside diameter	: 6.00	
x inside diameter x length mm	: 2.00 : 840	
REMARKS		

Check	:	0,3 0,02 0,04
INJECTION PUMP SET	Π.	ING VALUES
TIMING DEVICE TRAN	/EI	-
Rated speed rpm Aneroid pressure hPa	:	1500 1500
Setting mm Tolerance mm +	:	3.5 0.2
SUPPLY PUMP PRESSU	JRI	
Rated speed rpm Aneroid pressure	:	1500
hPa Supply pomp pressure bar	:	1500 8.0
Tolerance bar +-	:	0.3
FULL-LOAD DELIVERY	1	NITH BOOST PRESSURE
Rated speed rpm Aneroid pressure	:	1500
hPa Del. quantity	:	1500
cm3/1000 strokes Tolerance	:	84.0
cm3/1000 str. +- Spread	:	0.5
cm3/1000 strokes Check tolerance	•	5.0
cm3/1000s.	:	5.0
	:	THOUT BOOST PRESSURE
Del. quantity cm3/1000 strokes	-	57.0
Tolerance cm3/1000 str. +		0.5
Check tolerance cm3/1000s.	:	5.0
IDLE SETTING		
	:	325
Del. quantity cm3/1000 strokes	:	23.0
Tolerance cm3/1000 str. +-	:	2.0
Spread cm3/1000 strokes	:	7.0

Prestroke

BEGINNING OF DELIVERY

Check tolerance	+ Aneroid pressure
cm3/1000s. : 7.0	+ hPa : 1500
	+ Supply pomp
	+ pressure bar : 5.5
	† Tolerance bar + : 0.3
	+
FULL-LOAD SPEED REGULATION	+ OVERFLOW QUANTITY
Data de mande em 2000	† D. I. I. AFDO
Rated speed rpm : 2050 Pressure hPa : 1500	+ Rated speed rpm : 1500
Pressure hPa : 1500 Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 60.0	+ hPa : 1500
Tolerance	+ Overflow quantity + ccm/10s : 166.6
cm3/1000 str. + : 3.0	+ Tolerance
	+ ccm/10s +-: 27.7
STARTING FUEL DELIVERY	
	+ Check tolerance
Rated speed rpm : 100	+ ccm/10s + : 27.7
Del. quantity	+
cm3/1000 strokes : 60.0	Rated speed rpm : 600
Tolerance	+ Aneroid pressure
cm3/1000 str. + : 20.0	+ hPa : 1500
	† Overflow quantity
	+ ccm/10s : 138.8
	† Tolerance
	+ ccm/10s + : 22.2
INJECTION-PUMP TEST SPECIFICATIONS	Check tolerance
TIMECTION-FORF TEST SPECIFICATIONS	+ ccm/10s +-: 22.2
TIMING DEVICE CHARACTERICITO	1
IIMING DEVICE CHARACTERISTIC	+
TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
	DELIVERY AND BREAKAWAY CHARACTERISTIC
	+
Rated speed rpm : 1800	+
Rated speed rpm : 1800 Aneroid pressure hPa : 1500	Rated speed rpm : 2050 Aneroid pressure hPa : 1500
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm +-: 0.5	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm +-: 0.5	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm : 2200
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure hPa : 1500	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm: : 2200 Aneroid pressure
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 8.0 Rated speed rpm: : 2200 Aneroid pressure hPa : 1500
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure hPa : 1500 SV travel mm : 1.6	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm: : 2200 Aneroid pressure
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure hPa : 1500 SV travel mm : 1.6 Tolerance mm + : 0.4	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 12.5 Tolerance
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure hPa : 1500 SV travel mm : 1.6 Tolerance mm + : 0.4 Check tolerance mm + : 0.6	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 12.5
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure hPa : 1500 SV travel mm : 1.6 Tolerance mm + : 0.4 Check	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm: 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 12.5 Tolerance cm3/1000 str. + : 8.0 Check tolerance
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure hPa : 1500 SV travel mm : 1.6 Tolerance mm + : 0.4 Check tolerance mm + : 0.6 SUPPLY PUMP PRESSURE CHARACTERISTIC	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm: 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 12.5 Tolerance cm3/1000 str. + : 8.0
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure hPa : 1500 SV travel mm : 1.6 Tolerance mm + : 0.4 Check tolerance mm + : 0.6 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1900	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 8.0 Rated speed rpm: : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 12.5 Tolerance cm3/1000 str. +- : 8.0 Check tolerance cm3/1000s. +- : 10.0
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure hPa : 1500 SV travel mm : 1.6 Tolerance mm + : 0.4 Check tolerance mm + : 0.6 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1900 Aneroid pressure	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm: 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 12.5 Tolerance cm3/1000 str. + : 8.0 Check tolerance cm3/1000s. + : 10.0 Rated speed rpm : 2300
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure hPa : 1500 SV travel mm : 1.6 Tolerance mm + : 0.4 Check tolerance mm + : 0.6 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1900 Aneroid pressure hPa : 1500	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 8.0 Rated speed rpm: 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 12.5 Tolerance cm3/1000 str. +- : 8.0 Check tolerance cm3/1000s. +- : 10.0 Rated speed rpm : 2300 Aneroid pressure
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure hPa : 1500 SV travel mm : 1.6 Tolerance mm + : 0.4 Check tolerance mm + : 0.6 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1900 Aneroid pressure hPa : 1500 Supply pomp	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm: 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 12.5 Tolerance cm3/1000 str. + : 8.0 Check tolerance cm3/1000s. + : 10.0 Rated speed rpm : 2300 Aneroid pressure hPa : 1500
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure hPa : 1500 SV travel mm : 1.6 Tolerance mm + : 0.4 Check tolerance mm + : 0.6 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1900 Aneroid pressure hPa : 1500 Supply pomp pressure bar : 9.3	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm: 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 12.5 Tolerance cm3/1000 str. + : 8.0 Check tolerance cm3/1000s. + : 10.0 Rated speed rpm : 2300 Aneroid pressure hPa : 1500 Del. quantity
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure hPa : 1500 SV travel mm : 1.6 Tolerance mm + : 0.4 Check tolerance mm + : 0.6 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1900 Aneroid pressure hPa : 1500 Supply pomp	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 12.5 Tolerance cm3/1000 str. + : 8.0 Check tolerance cm3/1000s. + : 10.0 Rated speed rpm : 2300 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 1.5
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure hPa : 1500 SV travel mm : 1.6 Tolerance mm + : 0.4 Check tolerance mm + : 0.6 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1900 Aneroid pressure hPa : 1500 Supply pomp pressure bar : 9.3 Tolerance bar + : 0.3	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 str. + : 8.0 Check tolerance cm3/1000 str. + : 8.0 Check tolerance cm3/1000s. + : 10.0 Rated speed rpm : 2300 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance
Rated speed rpm : 1800 Aneroid pressure hPa : 1500 SV travel mm : 4.7 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Rated speed rpm : 1100 Aneroid pressure hPa : 1500 SV travel mm : 1.6 Tolerance mm + : 0.4 Check tolerance mm + : 0.6 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1900 Aneroid pressure hPa : 1500 Supply pomp pressure bar : 9.3	Rated speed rpm : 2050 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 12.5 Tolerance cm3/1000 str. + : 8.0 Check tolerance cm3/1000s. + : 10.0 Rated speed rpm : 2300 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 1.5

Check tolerance cm3/1000s. +-:	1.5	†
Rated speed rpm :	800	ELECTR. SHUTOFF
Aneroid pressure hPa :	750	CONTROL LEVER, IDLE STOP
Del. quantity	84.0	+ Rated speed rpm : 325 + Del. quantity
cm3/1000 strokes : Tolerance		+ cm3/1000 strokes : 1.5 + Tolerance
cm3/1000 str. +-: Check tolerance	0.5	+ cm3/1000 str. + : 1.5 + Check tolerance
cm3/1000s. +-:	4.0	+ cm3/1000s. +-: 1.5 + Spread
Rated speed rpm : Aneroid pressure	1900	+ cm3/1000 strokes : 5.0 + Shutoff solenoid
hPa : Del. quantity	1500	+ Volt : 12
cm3/1000 strokes : Tolerance	79.0	IDLE DELIVERY
cm3/1000 str. + : Check tolerance	2.0	Rated speed rpm : 600
cm3/1000s. +-:	3.5	Del. quantity cm3/1000 strokes : 1.5
Rated speed rpm : Aneroid pressure	1250	Tolerance + cm3/1000 str. +-: 1.5
hPa : Del. quantity	1500	+ Check tolerance + cm3/1000s. + : 1.5
cm3/1000 strokes : Tolerance	87.0	‡
cm3/1000 str. + : Check tolerance	2.0 3.0	‡
cm3/1000s. Rated speed rpm :	1500	START TRANSPITZON
Aneroid pressure hPa	1500	START TRANSITION
Del. quantity cm3/1000 strokes :	84.0	+ Rated speed rpm : 550 + Del. quantity + cm3/1000 strokes : 60.0
Tolerance cm3/1000 str. +-:	0.5	+ Tolerance
Check tolerance	2.5	+ cm3/1000 str. +-: 10.0
cm3/1000s. +-:	2.5	Rated speed rpm : 300 Del. quantity
MECHANICAL SHUTOFF		+ cm3/1000 strokes : 100.0 + Tolerance
Rated speed rpm : Aneroid pressure	1900	cm3/1000 str. +: 20.0
hPa : Del. quantity	1500	ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes : Tolerance	1.5	+ Dimension KF mm : 6,6
cm3/1000 str. +-: Spread	1.5	Tolerance mm +: 0,2 Dimension MS mm : 1,3
cm3/1000 strokes : Check tolerance	5.0	+ Tolerance mm +-: 0,2 + SVS dimension mm : 2,9
cm3/1000s. +-:	1.5	+
cm3/1000 strokes :	5.0	1

CONTROL LEVER POSITION SET

Control lever

position YA mm : 37,2..39,2

Control lever

position YB mm : 48,1..55,9

Rated speed rpm : 1250 BOSCH INJ. PUMP TEST SPECIFICATIONS 3.6 Setting mm Note remarks Tolerance mm +-: 0.2 Shutoff solenoid Refer to Service Info for test and Volt 12 adjustment instructions. See microcard(s) W400/... SUPPLY PUMP PRESSURE Edition : 01.09.89 Rated speed rpm : : ISO 4113 Test oil Supply pomp pressure bar : 0 460 484 034 Part no. Tolerance bar +-: 0.3 Pump designation : VE4/8F2300R171-2 Shutoff solenoid Volt 12 Customer-spec. information FULL-LOAD DELIV. WITHOUT BOOST PRESSURE Customer : PSA Motor : XUD7 Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 28.5 TEST BENCH REQUIREMENTS Tolerance cm3/1000 str. +-:0.5Spread cm3/1000 strokes : Inlet press. bar : 0.35 2.0 Tolerance bar +-: Shutoff solenoid Volt 12 Test nozzle holde : 1 688 901 022 assembly HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING Opening pressure 130 Rated speed rpm : 550 Tolerance bar +-: Del. quantity cm3/1000 strokes : 4.0 Tolerance Test lines : 1 680 750 073 cm3/1000 str. + :Shutoff solenoid Outside diameter : 6.00 Volt 12 x inside diameter : 2.00 IDLE DELIVERY x length man Rated speed rpm 375 Del. quantity cm3/1000 strokes : **REMARKS** 10.0 Tolerance cm3/1000 str. +-:2.0 Spread BEGINNING OF DELIVERY cm3/1000 strokes : 2.0 Shutoff solenoid 12 Start of delivery blocking Volt Plunger stroke mm: 0,3 HIGH IDLE SETTING Outlet : A Rated speed rpm : 450 Del. quantity INJECTION PUMP SETTING VALUES cm3/1000 strokes : 10.0 Tolerance TIMING DEVICE TRAVEL cm3/1000 str. +-: 2.0

Shutoff solenoid +	
Volt : 12	SUPPLY PUMP PRESSURE CHARACTERISTIC
FULL-LOAD SPEED REGULATION	Rated speed rpm : 2000 Supply pomp
Rated speed rpm : 2440	pressure bar : 6.7
Del. quantity	Tolerance bar + : 0.3
cm3/1000 strokes : 22.0	Shutoff solenoid
Tolerance	Volt : 12
cm3/1000 str. +: 3.0	
Shutoff solenoid	Rated speed rpm : 800
Volt : 12	Supply pomp
+	pressure bar : 3.3
STARTING FUEL DELIVERY 1	Tolerance bar + : 0.3
1	Shutoff solenoid
Rated speed rpm : 100	Volt : 12
Del. quantity	
cm3/1000 strokes : 62.0	OVERFLOW QUANTITY
Tolerance	
cm3/1000 str. +-: 20.0	Rated speed rpm : 2250
Shutoff solenoid +	Overflow quantity
Volt : 12 +	ccm/10s : 97.2
+	Tolerance
i i i i i i i i i i i i i i i i i i i	ccm/10s + : 41.6
<u> </u>	
LOAD-DEPENDENT START OF DELIVERY	Check tolerance
SETTING	ccm/10s + : 41.6
+	Shutoff solenoid
TIMING-DEVICE TRAVEL DIFFERENCE	Volt : 12
+	
Rated speed rpm : 1250 +	Rated speed rpm : 500
Del. quantity +	Overflow quantity
cm3/1000 strokes : -1.0	ccm/10s : 62.5
Tolerance +	Tolerance
cm3/1000 str. +-: 0.1 +	ccm/10s +-: 20.8
Shutoff solenoid +	
Volt : 12 +	Check tolerance
†	ccm/10s +: 20.8
	Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATIONS	Volt : 12
TIMENO DELITOR CHARACTERICTIC	ACITHERY AND DECAMAINS OF A CTERTOTTO
TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm : 2000	Rated speed rpm : 2440
Tarea speed (pill . 2000	Del. quantity
SV travel mm : 7.9	cm3/1000 strokes : 22.0
Tolerance mm +-: 0.4	Tolerance
Check	cm3/1000 str. +-: 3.0
tolerance mm +-: 0.7	Check tolerance
Shutoff solenoid	cm3/1000s. +-: 4.0
Volt : 12	Shutoff solenoid
1	Volt : 12
Rated speed rpm : 800	7
1	Rated speed rpm : 2540
SV travel mm : 1.2	Del. quantity
Tolerance mm +: 0.4	cm3/1000 strokes : 14.5
Check	Check tolerance
tolerance mm +-: 0.7	cm3/1000s. +-: 4.5
Shutoff solenoid +	Shutoff solenoid
Volt : 12 +	Volt : 12
·	

		+
Rated speed rpm : Del. quantity		MECHANICAL SHUTOFF
cm3/1000 strokes : Tolerance	7.0	Rated speed rpm : 2250
cm3/1000 str. +-: Check tolerance	3.5	+ Del. quantity + cm3/1000 strokes : 1.5
cm3/1000S, + : Shutoff solenoid	3.5	+ Tolerance + cm3/1000 str. +-: 1.5
Volt :	12	+ Check tolerance + cm3/1000s. +-: 1.5
Rated speed rpm : Del. quantity cm3/1000 strokes :	2250 28.5	+ Shutoff solenoid + Volt : 12
cm3/1000 strokes : Tolerance cm3/1000 str. +-:	1.0	ELECTR CHITAGE
Check tolerance cm3/1000s. +:	2.3	+ ELECTR. SHUTOFF + CONTROL LEVER, IDLE STOP
Shutoff solenoid	12	Rated speed rpm : 375 Del. quantity
Rated speed rpm :	800	cm3/1000 strokes : 1.5
Del. quantity cm3/1000 strokes :	29.0	cm3/1000 str. +-: 1.5
Tolerance cm3/1000 str:	1.0	cm3/1000s. +-: 1.5
Check tolerance cm3/1000s. +-:	3.0	
Shutoff solenoid Volt :	12	+
Rated speed rpm :	2000	
Del. quantity cm3/1000 strokes :	2000 28.5	CHECKING LOAD-DEPENDENT START OF DELIVERY
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-:		
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-:	28.5	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance	28.5	TART OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.0
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Ræted speed rpm :	28.5 1.0 2.3	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.0 Tolerance cm3/1000 str. + : 4.0
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt : Rated speed rpm Del. quantity cm3/1000 strokes:	28.5 1.0 2.3 12	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.0 Tolerance cm3/1000 str. +- : 4.0 Check tolerance cm3/1000s. +- : 6.0
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt: Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-:	28.5 1.0 2.3 12 500	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.0 Tolerance cm3/1000 str. +- : 4.0 Check tolerance
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt: Rated speed rpm Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-:	28.5 1.0 2.3 12 500 29.5	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.0 Tolerance cm3/1000 str. + : 4.0 Check tolerance cm3/1000s. + : 6.0 Shutoff solenoid
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt: Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance	28.5 1.0 2.3 12 500 29.5 1.5	DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.0 Tolerance cm3/1000 str. + : 4.0 Check tolerance cm3/1000s. + : 6.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt: Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid	28.5 1.0 2.3 12 500 29.5 1.5 3.0	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.0 Tolerance cm3/1000 str. +-: 4.0 Check tolerance cm3/1000s. +-: 6.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt: Ræted speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt: Ræted speed rpm:	28.5 1.0 2.3 12 500 29.5 1.5 3.0 12 1250 28.5	DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.0 Tolerance cm3/1000 str. +- : 4.0 Check tolerance cm3/1000s. +- : 6.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -1.0 Tolerance cm3/1000 str. +- : 0.1 Check tolerance
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt: Ræted speed rpm Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt: Ræted speed rpm Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Tolerance cm3/1000 strokes: Tolerance cm3/1000 strokes: Tolerance cm3/1000 strokes: Tolerance cm3/1000 strokes: Tolerance	28.5 1.0 2.3 12 500 29.5 1.5 3.0 12 1250 28.5 0.5	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.0 Tolerance cm3/1000 str. +-: 4.0 Check tolerance cm3/1000s. +-: 6.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -1.0 Tolerance cm3/1000 str. +-: 0.1 Check tolerance cm3/1000s. +-: 0.1 Shutoff solenoid
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt: Rated speed rpm Del. quantity cm3/1000 strokes: Tolerance cm3/1000s. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt: Rated speed rpm Del. quantity cm3/1000s. +-: Tolerance cm3/1000s. +-: Tolerance cm3/1000 strokes: Tolerance cm3/1000 strokes: Tolerance cm3/1000 strokes:	28.5 1.0 2.3 12 500 29.5 1.5 3.0 12 1250 28.5	DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.0 Tolerance cm3/1000 str. +-: 4.0 Check tolerance cm3/1000s. +-: 6.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -1.0 Tolerance cm3/1000 str. +-: 0.1 Check tolerance cm3/1000s. +-: 0.1

START TRANSITION

Rated speed rpm : 300

Del. quantity

cm3/1000 strokes : 24.0

Tolerance

cm3/1000 str. + : 10.0

Shutoff solenoid

Volt : 12

Rated speed rpm : 200

Del. quantity

cm3/1000 strokes : 64.0

Tolerance

cm3/1000 str. + : 20.0

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3
Tolerance mm + : 0,1
Dimension KF mm : 5,5
Tolerance mm + : 0,2
Dimension MS mm : 1,4
Tolerance mm + : 0,2

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 06.11.96 Test oil : ISO 4113 : 0 460 485 032 Part no. Pump designation: VE5/8F2100L545-6 Customer-spec. information : VW Customer Motor : 2,4L SD Power KW 57.0 TEST BENCH REQUIREMENTS Calibrating-oil return temperature °C Tolerance *C +-: Overflow 0.55 restriction mm : Inlet press. bar : 0.35 Tolerance bar + : 0.05 Test nozzle holde : 1 688 901 000 assembly Opening pressure 147 Tolerance bar +-: : 1 680 750 000 Test lines Outside diameter : 6.00 x inside diameter : 2.00 x length mm 840 **REMARKS**

TIMING DEVICE TRA	IVEL	
Rated speed rpm	:	1250
Setting mm Tolerance mm + Shutoff solenoid	•	2.4 0.2
Volt	:	12
SUPPLY PUMP PRESS	SURE	
Rated speed rpm Supply pomp	:	1250
pressure bar Tolerance bar +-	:	6.0 0.3
Shutoff solenoid	•	
Volt	:	12
FULL-LOAD DELIV.	WITH	HOUT BOOST PRESSURE
Rated speed rpm Del. quantity	:	1250
cm3/1000 strokes Tolerance	:	36.5
cm3/1000 str. +	- :	0.5
Spread cm3/1000 strokes	:	2.0
Shutoff solenoid Volt	:	12
HOUSING-FIXED IDL RESIDUAL QUANTITY		
Rated speed rpm Del. quantity	:	540
cm3/1000 strokes Tolerance	:	7.0
cm3/1000 str. +-	-:	0.5
Shutoff solenoid Volt	:	12
IDLE DELIVERY		
Rated speed rpm	:	415
Del. quantity cm3/1000 strokes	:	8.0
Tolerance cm3/1000 str. +-	• :	1.0
Spread cm3/1000 strokes	:	2.0
Shutoff solenoid Volt	:	12
HIGH IDLE SETTING	;	· ·
Rated speed rpm	:	450
Del. quantity		ν 0

cm3/1000 strokes :

8.0

INJECTION PUMP SETTING VALUES

Tolerance	L
cm3/1000 str. +-: 1.0	
Shutoff solenoid	INJECTION-PUMP TEST SPECIFICATIONS
Volt : 12	TIMING DEVICE CHARACTERISTIC
FULL-LOAD SPEED REGULATION	- TITING DEVICE GHANAGTERIOTEG
Rated speed rpm : 2400	Rated speed rpm : 1790
Rated speed rpm : 2400 Del. quantity	SV travel mm : 5.7
cm3/1000 strokes : 12.0	Tolerance mm +: 0.4
Tolerance cm3/1000 str. +: 2.0	Check tolerance mm + : 0.7
Shutoff solenoid	Shutoff solenoid
Volt : 12 -	Volt : 12
STARTING FUEL DELIVERY	Rated speed rpm : 1000
Rated speed rpm : 100 - Del. quantity -	SV travel mm : 0.7 Tolerance mm +-: 0.4
cm3/1900 strokes : 60.0	Check
Tolerance -	tolerance mm +: 0.7
cm3/1000 str. + : 25.0 - Shutoff solenoid -	Shutoff solenoid Volt : 12
Volt : 12	
7	SUPPLY PUMP PRESSURE CHARACTERISTIC
1	Rated speed rpm : 1790
LOAD-DEPENDENT START OF DELIVERY	Supply pomp
SETTING	pressure bar : 7.5 Tolerance bar + : 0.3
DELIVERY DIFFERENCE	Shutoff solenoid
4	Volt : 12
Rated speed rpm : 1500 - Del. quantity -	Rated speed rpm : 1000
cm3/1000 strokes : -7.0	Supply pomp
Tolerance 4.0	pressure bar : 5.3
cm3/1000 str. + : 1.0 - Shutoff solenoid -	Tolerance bar +-: 0.3 Shutoff solenoid
Volt : 12 -	- Volt : 12
PRESSURE DIFFERENCE	- OVERFLOW QUANTITY
FRESSORE DIFFERENCE	- OVERFLOW GOANTITT
Rated speed rpm : 1500	Rated speed rpm : 2100
Del. quantity - cm3/1000 strokes : -0.2 -	Overflow quantity ccm/10s : 97.2
Tolerance	Tolerance
cm3/1000 str. + : 0.1 - Shutoff solenoid -	ccm/10s +: 41.6
Volt : 12	Check tolerance
	- ccm/10s + : 55.5
TIMING-DEVICE TRAVEL DIFFERENCE	- Shutoff solenoid - Volt : 12
Rated speed rpm : 1500	
Del. quantity - cm3/1000 strokes : -0.4 -	Rated speed rpm : 600
Tolerance	- Overflow quantity - ccm/10s : 63.8
cm3/1000 str. +-: 0.1	- Tolerance
Shutoff solenoid - 12 - 12	- ccm/10s +-: 22.2
• '2	<u> </u>

		l bal a th
Check tolerance		+ Del. quantity + cm3/1000 strokes : 36.5
ccm/10s + :	34.7	Tolerance
Shutoff solenoid	34.7	+ cm3/1000 str. +: 0.5
Volt :	12	- Check tolerance
		+ cm3/1000s. + : 2.2
DELIVERY AND BREAKA	WAY CHARACTERISTIC	+ Shutoff solenoid
		† Volt : 12
Rated speed rpm :	2400	†
Del. quantity cm3/1000 strokes :	13.0	†
Tolerance	12.0	ELECTR. SHUTOFF
cm3/1000 str. +:	2.0	CONTROL LEVER, IDLE STOP
Check tolerance	2.0	+ SON NOE EEVEN, IDEE 0101
cm3/1000s. ←:	4.0	+ Rated speed rpm : 415
Shutoff solenoid		+ Del. quantity
Volt :	12	+ cm3/1000 strokes : 1.5
Dodayl speed sum	2700	† Tolerance
Rated speed rpm : Del. quantity	2300	+ cm3/1000 str. +-: 1.5
cm3/1000 strokes :	22.0	+ Check tolerance + cm3/1000s. +-: 1.5
Tolerance	22.0	Spread
cm3/1000 str. +:	5.0	+ cm3/1000 strokes : 5.0
Check tolerance		+
cm3/1000s. +-:	6.0	+ FULL-LOAD STOP CONTROL LEVER
Shutoff solenoid	40	† D
Volt :	12	+ Rated speed rpm : 415
Rated speed rpm :	2600	+ Del. quantity + cm3/1000 strokes : 1.5
Del. quantity		+ Tolerance
cm3/1000 strokes :	3.0	+ cm3/1000 str. +-: 1.5
Tolerance		+ Spread
cm3/1000 str. + :	3.0	cm3/1000 strokes : 5.0
Check tolerance cm3/1000s. +-:	3.0	+ Check tolerance + cm3/1000s. +-: 1.5
Shutoff solenoid	3.0	Spread
Volt :	12	+ cm3/1000 strokes : 5.0
		+
Rated speed rpm :	2100	†
Del. quantity cm3/1000 strokes :	31.0	†
Tolerance	31.0	T RESIDUAL QUANTITY
cm3/1000 str. +-:	1.0	WEATANE ANUITI
Check tolerance		Rated speed rpm : 490
cm3/1000s. +-:	2.2	+ Del. quantity
Shutoff solenoid	42	+ cm3/1000 strokes : 7.8
Volt :	12	+ Tolerance + cm3/1000 str. +-: 1.0
Rated speed rpm :	600	Check tolerance
Del. quantity		+ cm3/1000s. +-: 2.5
cm3/1000 strokes :	33.8	+ Shutoff solenoid
Tolerance	4	† Volt : 12
cm3/1000 str. +-:	1.5	†
Check tolerance cm3/1000s. +-:	3.0	Ī
Shutoff solenoid	J.U	CHECKING LOAD-DEPENDENT
Volt :	12	+ START OF DELIVERY
		+
Rated speed rpm :	1250	+ DELIVERY DIFFERENCE
		+

Rated speed rpm : 1500	+ Shutoff solenoid
Del. quantity	+ Volt : 12
cm3/1000 strokes : -6.5	
Tolerance	1
cm3/1000 str. + : 3.0	Rated speed rpm : 180
Check tolerance	- Del. quantity
cm3/1000s. + : 4.0	- cm3/1000 strokes : 60.0
Shutoff solenoid	+ Tolerance
Volt : 12	+ cm3/1000 str. ++: 25.0
	+ Shutoff solenoid
TIMING-DEVICE TRAVEL DIFFERENCE	
	+
Rated speed rpm : 1500	
Del. quantity	ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes : -0.4	
Tolerance	Dimension K mm : 3,3
cm3/1000 str. +-: 0.1	+ Tolerance mm $+$: 0,1
Check tolerance	Dimension KF mm : 5,8
cm3/1000s. + : 0.1	+ Tolerance mm +-: 0,2
Shutoff solemoid	+ Dimension MS mm : 1,4
Volt : 12	+ Tolerance mm +-: 0,1
	+
DELIVERY DIFFERENCE	+
	†
Rated speed rpm : 1500	+ CONTROL LEVER POSITION
Del. quantity	+ SET
cm3/1000 strokes : 1.5	+
Tolerance	+
cm3/1000 str. +-: 1.5	+ Control lever
Check tolerance	position YA mm : 37,239,2
cin3/1000s. +: 1.5	†
Shutoff solenoid	+ Control lever
Volt : 12	position YB mm : 38,549,5
PRESSURE DIFFERENCE	†
PRESSURE DIFFERENCE	
Rated speed rpm : 1500	I
Supply pomp	End of test-specification sheet
pressure bar : -1.0	I that of test specification sneet
Tolerance bar +-: 0.2	\perp
Shutoff solenoid	\perp
Volt : 12	<u> </u>
1 1	
TIMING-DEVICE TRAVEL DIFFERENCE	CE +
	+
Rated speed rpm : 1500	+
Tolerance mm +-: 0.2	+
Check	+
tolerance mm +-: 0.6	+
Shutoff solenoid	+
Volt : 12	+
	†
OTIOT TOMICTTON	†
START TRANSITION	†
Dahad award awar a 700	†
Rated speed rpm : 380	†
Del. quantity	†
cm3/1000 strokes : 27.0	†
Tolerance cm3/1000 str. +-: 10.0	†
cm3/1000 str. +-: 10.0	†

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.11.96 Test oil : ISO 4113

Part no. : 0 460 414 149 Pump designation : VE4/11F1150L704

Customer—spec. information
Customer : IVECO-FIAT
Motor : 8045.05B.241
Power Kal : 55.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature *C : 45
Tolerance *C + : 1

Overflow

restriction nam : 0.55

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 027

Opening pressure

bar : 250 Tolerance bar + : 3

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00
x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1200

Setting mm : 0.7
Tolerance mm + : 0.2
Shutoff solenoid
Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1200 Supply pomp

pressure bar : 8.9
Tolerance bar + : 0.3
Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 800
Del. quantity
cm3/1000 strokes : 72.0
Tolerance
cm3/1000 str. + : 0.5
Spread
cm3/1000 strokes : 3.5
Shutoff solenoid
Volt : 12

IDLE SETTING

Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 8.0 Tolerance cm3/1000 str. + :2.0 Shutoff solenoid Volt 12 Spread cm3/1000 strokes : 3 5 Check tolerance cm3/1000s. 3.5 :

FULL-LOAD SPEED REGULATION

Rated speed rpm : 1210
Del. quantity
cm3/1000 strokes : 45.6
Tolerance
cm3/1000 str. +-: 2.0
Shutoff solenoid
Volt : 12

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity		+			
cm3/1000 strokes	: 120.0	+	Check tolerance		
Tolerance		+	ccm/10s +-	:	16.6
cm3/1000 str. +	: 25.0	+	Shutoff solenoid		
Shutoff solenoid		+	Volt	:	12
Volt	: 12	+			
		+	DELIVERY AND BREAK	<awa< th=""><th>Y CHARACTERISTI</th></awa<>	Y CHARACTERISTI
		+			
		+	Rated speed rpm	:	1210
		+	Del. quantity		
		- +	cm3/1000 strokes	:	45.6
INJECTION-PUMP TE	ST SPECIFICATIONS	†	Tolerance		
		+	cm3/1000 str. +	:	2.0
TIMING DEVICE CHAP	RACTERISTIC	†	Check tolerance		
5	4700	†	cm3/1000s. +-	:	6.0
Rated speed rpm	: 1300	†	Shutoff solenoid		40
6) 1 America 1 -	. 4.	†	Volt	:	12
SV travel mm	: 1.6	†	Dedant and of		4250
Tolerance mm +-	: 0.4	†	Rated speed rpm	:	1250
Check	. 0 /	†	Del. quantity		24 /
tolerance mm +	: 0.4	†	cm3/1000 strokes	:	21.4
Shutoff solenoid Volt	: 12	†	Check tolerance cm3/1000s. +-		7.0
VOLT	: 12	Ť		:	7.0
SUPPLY PUMP PRESSU	IDE CHADACTEDISTIC	†	Shutoff solenoid Volt		12
SUPPLI FUME PRESSU	JUST CHARACTERIOTIC	Ţ	VOLL	:	16
Rated speed rpm	: 400	I	Rated speed rpm	:	1340
Supply pomp	• +00	I	Del. quantity	•	1270
pressure bar	: 4.9	I	cm3/1000 strokes		1.5
Tolerance bar +		I	Tolerance	•	1.0
Shutoff solenoid	. 0.0	1	cm3/1000 str. +	•	1.5
Volt	: 12	1	Check tolerance	•	1.0
		1	cm3/1000s. +-	•	1.5
Rated speed rpm	: 800	1	Shutoff solenoid	•	1.00
Supply pomp		1	Volt	:	12
pressure bar	: 6.8	1		•	
Tolerance bar +		+	Rated speed rpm	:	1125
Shutoff solenoid		1	Del. quantity		
Volt	: 12	+	cm3/1000 strokes	:	63.5
		+	Tolerance		
OVERFLOW QUANTITY		+	cm3/1000 str. +-	:	1.5
		+	Check tolerance		
	: 1125	+	cm3/1000s. +-	:	3.5
Overflow quantity		+	Shutoff solenoid		
ccm/10s	: 86.1	+	Volt	:	12
Tolerance		+	5.1.1		(50
ccm/10s +-	: 27.7	†	Rated speed rpm	:	650
المالية المالية		†	Del. quantity		(0.7
Check tolerance	. 977	†	cm3/1000 strokes	:	69.3
	: 27.7	†	Tolerance		2 N
Shutoff solenoid	. 13	†	cm3/1000 str. +	:	2.0
Volt	: 12	†	Check tolerance		
Dadad anced ann	. /.00	†	cm3/1000s. +-	:	4.0
Rated speed rpm	: 400	†	Shutoff solenoid		10
Overflow quantity	: 66.6	†	Volt	:	12
ccm/10s Tolerance	, 00.0	Ī	Pated speed rom		400
ccm/10s +-	: 16.6	I	Rated speed rpm Del. quantity	:	400
CUII/ 108	. 10.0	I	cm3/1000 strokes		66.0
		I	MID TOUG STRUKES	•	00.0
		Т			

Tolerance -	+ Del. quantity
cm3/1000 str. + : 1.5	cm3/1000 strokes : 31.5
Check tolerance -	Tolerance
cm3/1000s. +: 3.5	
Shutoff solenoid -	Check tolerance
Volt : 12 -	+ cm3/1000s. +-: 5.5
-	├ Shutoff solenoid
Rated speed rpm : 800 -	→ Volt : 12
Del. quantity -	
cm3/1000 strokes : 72.0	
Tolerance -	
	†
cm3/1000 str. +: 0.5	†
Check tolerance -	+
cm3/1000s. + : 3.0	+
Shutoff solenoid -	START TRANSITION
Volt : 12 -	1
	Rated speed rpm : 250
	Del. quantity
• • • • • • • • • • • • • • • • • • •	
FI FORM CHIRAPP	+ cm3/1000 strokes : 70.0
ELECTR. SHUTOFF	† Tolerance
CONTROL LEVER, IDLE STOP	├ cm3/1000 str. +-: 10.0
•	- Shutoff solenoid
Rated speed rpm : 325	├ Volt : 12
Del. quantity -	
cm3/1000 strokes : 1.5	
Tolerance -	Rated speed rpm : 150
	The state of the s
cm3/1000 str. +: 1.5	Del. quantity
Check tolerance -	cm3/1000 strokes : 125.0
cm3/1000s. +: 1.5	† Tolerance
Spread -	├ cm3/1000 str. +-: 20.0
cm3/1000 strokes : 5.0	
	Shutoff solenoid
cm3/1000 strokes : 5.0	
	Shutoff solenoid
FULL-LOAD STOP CONTROL LEVER	Shutoff solenoid Volt : 12
FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325	Shutoff solenoid
Cm3/1000 strokes : 5.0 - FULL-LOAD STOP CONTROL LEVER - Rated speed rpm : 325 - Del. quantity -	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS
Cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3
cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5 Tolerance	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1
Cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3
cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5 Tolerance	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1
Cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Spread	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm +-: 0,1 Dimension KF mm : 6,4 Tolerance mm +-: 0,2
Cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 MS1 dimension mm : 1,7
Cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm +-: 0,1 Dimension KF mm : 6,4 Tolerance mm +-: 0,2
Cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity : 1.5 Tolerance : 1.5 Tolerance : 1.5 Spread : cm3/1000 strokes : 5.0 Check tolerance : 1.5 Cm3/1000s. +: 1.5	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 MS1 dimension mm : 1,7
Cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity : 1.5 Tolerance : 1.5 Spread : 5.0 Check tolerance : 5.0 Spread : 1.5 Spread : 1.5 Spread : 1.5 Spread : 1.5	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 MS1 dimension mm : 1,7
Cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity : 1.5 Tolerance : 1.5 Tolerance : 1.5 Spread : cm3/1000 strokes : 5.0 Check tolerance : 1.5 Cm3/1000s. +: 1.5	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 MS1 dimension mm : 1,7
FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000s. + : 1.5 Spread cm3/1000s. + : 5.0	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 MS1 dimension mm : 1,7
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FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000s. + : 1.5 Spread cm3/1000s. + : 5.0	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 MS1 dimension mm : 1,7
FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +- : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. +- : 1.5 Spread cm3/1000s. +- : 5.0 IDLE DELIVERY	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 MS1 dimension mm : 1,7
FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. +-: 1.5 Spread cm3/1000s. +-: 1.5 Spread cm3/1000s. +-: 1.5 Spread cm3/1000s. +-: 1.5 Spread cm3/1000s. +-: 1.5 Spread cm3/1000s. +-: 1.5	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 MS1 dimension mm : 1,7 Tolerance mm + : 0,1
FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. +-: 1.5 Spread cm3/1000s. +-: 1.5 Spread cm3/1000s. +-: 1.5 Spread cm3/1000s. +-: 1.5 Spread cm3/1000s. +-: 1.5 Spread cm3/1000s. +-: 1.5 Spread cm3/1000s. +-: 1.5 Spread cm3/1000s. +-: 1.5	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 MS1 dimension mm : 1,7
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FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000strokes : 5.0 Check tolerance cm3/1000strokes : 5.0 IDLE DELIVERY Rated speed rpm : 430 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. + : 1.5 Check tolerance cm3/1000s. + : 1.5	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 MS1 dimension mm : 1,7 Tolerance mm + : 0,1
FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. +: 1.5 Spread cm3/1000s. +: 1.5 Spread cm3/1000s. +: 1.5 Spread cm3/1000s. +: 1.5 Tolerance cm3/1000 strokes : 5.0 IDLE DELIVERY Rated speed rpm : 430 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Shutoff solenoid	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 MS1 dimension mm : 1,7 Tolerance mm + : 0,1
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FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. +: 1.5 Spread cm3/1000s. +: 1.5 Spread cm3/1000s. +: 1.5 Spread cm3/1000s. +: 1.5 Tolerance cm3/1000 strokes : 5.0 IDLE DELIVERY Rated speed rpm : 430 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Shutoff solenoid	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 MS1 dimension mm : 1,7 Tolerance mm + : 0,1
FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. +: 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 5.0 IDLE DELIVERY Rated speed rpm : 430 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 1.5 Shutoff solenoid Volt : 12	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 MS1 dimension mm : 1,7 Tolerance mm + : 0,1
### Citi3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +- : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. +- : 1.5 Spread cm3/1000 strokes : 5.0 IDLE DELIVERY Rated speed rpm : 430 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +- : 1.5 Check tolerance cm3/1000 str. +- : 1.5 Check tolerance cm3/1000s. +- : 1.5 Shutoff solenoid Volt : 12	Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 MS1 dimension mm : 1,7 Tolerance mm + : 0,1

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.11.96 Test oil : ISO 4113

Part no. : 0 460 426 272 Pump designation : VE6/12F1050R381-9

Customer—spec. information Customer : CUMMINS

Motor : 6BT- 5.9 IND.

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C +-: 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 027

Opening pressure

bar : 250 Tolerance bar +- : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,5

Tolerance mm +-:0.02(0.06)

Outlet : D

Prestroke

(as of UT) mm : 0.3Tolerance mm + : 0.02

Check

tolerance mm + : 0.04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 750

Setting mm : 3.4
Tolerance mm +-: 0.2

Shutoff solenoid

Volt : 24

SUPPLY PUMP PRESSURE

Rated speed rpm : 750

Subbly bomb

pressure bar : 4.2 Tolerance bar + : 0.3

Shutoff solenoid

Volt : 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 750 Del. quantity

cm3/1000 strokes : 75.0

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 4.5

Shutoff solenoid

Volt : 24

IDLE SETTING

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 18.5

Tolerance

cm3/1000 str. + : 3.0

Shutoff solenoid

Volt : 24

Spread

cm3/1000 strokes : 7.0

Check tolerance

cm3/1000s. : 7.0

1	Shutoff solenoid
FULL-LOAD SPEED REGULATION	Volt : 24
Rated speed rpm : 1150 Del. quantity	OVERFLOW QUANTITY
cm3/1000 strokes : 55.0 + Tolerance	Rated speed rpm : 1050 Overflow quantity
cm3/1000 str. +: 3.0 +	ccm/10s : 75.0 Tolerance
Volt : 24	ccm/10s ←: 27.7
STARTING FUEL DELIVERY	Check tolerance ccm/10s +-: 27.7
Rated speed rpm : 100 + Del. quantity +	Shutoff solenoid Volt : 24
cm3/1000 strokes : 85.0 Tolerance	Rated speed rpm : 500
cm3/1000 str. +: 30.0 +	Overflow quantity ccm/10s : 55.5
Volt : 24	Tolerance ccm/10s +-: 16.6
1	Check tolerance
	ccm/10s +-: 16.6 Shutoff solenoid
INJECTION—PUMP TEST SPECIFICATIONS	Volt : 24
TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm : 1050	Rated speed rpm : 1150 Del. quantity
SV travel mm : 5.5 Tolerance mm +: 0.4	cm3/1000 strokes : 55.0 Tolerance
Check tolerance mm +: 0.7	cm3/1000 str. + : 3.0 Check tolerance
Shutoff solenoid Volt : 24	cm3/1000s. +-: 6.0 Shutoff solenoid
Rated speed rpm : 500	Volt : 24
SV travel mm : 2.0	Rated speed rpm : 1180 Del. quantity
Tolerance mm + : 0.4	cm3/1000 strokes : 28.0 Check tolerance
tolerance mm +: 0.7 Shutoff solenoid	cm3/1000S. +-: 15.0 Shutoff solenoid
Volt : 24	Volt : 24
SUPPLY PUMP PRESSURE CHARACTERISTIC	Rated speed rpm : 1240 Del. quantity
Rated speed rpm : 1050 +	cm3/1000 strokes : 1.5 Tolerance
pressure bar : 5.4 Tolerance bar +: 0.3	cm3/1000 str. + : 1.5 Check tolerance
Shutoff solenoid + Volt : 24	cm3/1000s. +-: 1.5 Shutoff solenoid
Rated speed rpm : 500	Volt : 24
Supply pomp pressure bar : 3.2	Rated speed rpm : 1050 Del. quantity
Tolerance bar +: 0.3	cm3/1000 strokes : 71.0

-2.1		•			
Tolerance		+	Del. quantity		
cm3/1000 str. +-	: 1.5	+	cm3/1000 strokes	:	1.5
Check tolerance		+	Tolerance		
cm3/1000s. +	: 3.0	+	cm3/1000 str. +-		1.5
Shutoff solenoid		+	Check tolerance		
Volt	: 24	1	cm3/1000s. +-	. •	1.5
		1	Spread	•	
Rated speed rpm	: 900	1	cm3/1000 strokes		5.0
Del. quantity	. ,00	T	CMD/ 1000 SCIOKES	•	٥.٠
cm3/1000 strokes	: 75.0	Ţ	FULL LOSS STOP CO	NTOOL	1 5150
	. 75.0	Ť	FULL-LOAD STOP CO	NIRUL	LEVER
Tolerance	. 20	Ť			
cm3/1000 str. +-	: 2.0	t	Rated speed rpm	:	375
Check tolerance		+	Del. quantity		
cm3/1000s. +-	: 4.0	+	cm3/1000 strokes	:	1.5
Shutoff solenoid		+	Tolerance		
Volt	: 24	+	cm3/1000 str. +-		1.5
		+	Spread		
Rated speed rpm	: 500	1	cm3/1000 strokes	:	5.0
Del. quantity		1	Check tolerance	•	
cm3/1000 strokes	: 64.0	1	cm3/1000s. +-		1.5
Tolerance		1	Spread	•	1.2
cm3/1000 str. +-	: 4.0	\mathbf{I}	cm3/1000 strokes	•	5.0
Check tolerance	•0	T	CIRDY TOOC SET ONES	•	٠.٠
cm3/1000s. +-	: 6.0	Ť	TREE DELTUERY		
	: 6.0	Ť	IDLE DELIVERY		
Shutoff solenoid	24	†			4.00
Volt	: 24	†	Rated speed rpm	:	600
		+	Del. quantity		
Rated speed rpm	: 750	+	cm3/1000 strokes	•	2.0
Del. quantity		+	Tolerance		
cm3/1000 strokes	: 75.0	+	cm3/1000 str. +		2.0
Tolerance		+	Check tolerance		
cm3/1000 str. +-	: 0.5	1	cm3/1000s. +-	:	2.0
Check tolerance		+	Shutoff solenoid		
cm3/1000s. +-	: 3.0	1	Volt	•	24
Shutoff solenoid		1		•	
Volt	: 24	1	Rated speed rpm	:	475
1000		1	Del. quantity	•	717
			cm3/100C strokes		31.0
MECHANICAL SULTOE	E	T		:	21.0
MECHANICAL SHUTOF	r	Ť	Tolerance		
Dakad a	4050	Ť	cm3/1000 str. +-		4.0
Rated speed rpm	: 1050	†	Shutoff solenoid		0.
Del. quantity	. 4 -	†	Volt	:	24
cm3/1000 strokes	: 7.5	†			
Tolerance		†			
cm3/1000 str. +-	: 1.5	+			
Spread		+			
cm3/1000 strokes	: 5.0	+			
Check tolerance		+			
cm3/1000s. +-	: 1.5	+	START TRANSITION		
Spread		1			
cm3/1000 strokes	: 5.0	1	Rated speed rpm	:	240
Shutoff solenoid		1	Del. quantity	-	- 10
Volt	: 24	\int	cm3/1000 strokes	•	40.0
		I	Tolerance	•	₩.0
		I	cm3/1000 str. +-		15.0
ELECTR. SHUTOFF		T	Shutoff solenoid	•	17.0
	E STOD	Ť	Volt		24
CONTROL LEVER, IDE	LE STUP	Ť	VOLL	:	C 4
Datad annual annu	. 775	†			
Rated speed rpm	: 375	†	Datad annual una		170
		†	Rated speed rpm	•	130

Del. quantity cm3/1000 strokes : 95.0

Tolerance

cm3/1000 str. +-: 30.0

Shutoff solenoid

Volt 24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,2
Tolerance mm + : 0,2
Dimension MS mm : 1,0
Tolerance mm + : 0,2 SVS dimension mm : 1,6

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 21.11.96 Edition Test oil : ISO 4113

Part no. : 0 460 494 417 Pump designation : VE4/9F2100R471-3

Customer-spec. information Customer : VW

: 1.9L UD Motor Power KW 50.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature *C Tolerance °C +-:

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

bar Tolerance bar +-:

: 1 680 750 073 Test Lines

Outside diameter : 6.00

x inside diameter : 2.00 450 x length mm

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm 3.9 Tolerance mm +--: 0.2 Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Supply pomp

pressure bar Tolerance bar + : 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 40.0

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 2.5

Shutoff solenoid

Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 550 Del. quantity

cm3/1000 strokes : 5.5

Tolerance

cm3/1000 str. + :

Shutoff solenoid

12 Volt

IDLE DELIVERY

Rated speed rpm : 425

Del. quantity

cm3/1000 strokes : 11.0

Tolerance

cm3/1000 str. +-:1.0

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

HIGH IDLE SETTING

500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 11.0

Tolerance +	
cm3/1000 str. +: 1.0 + Shutoff solenoid +	INJECTION-PUMP TEST SPECIFICATIONS
Volt : 12	TIMING DEVICE CHARACTERISTIC
FULL-LOAD SPEED REGULATION	Rated speed rpm : 1700
Rated speed rpm : 2400 + Del. quantity	SV travel mm : 6.0
cm3/1000 strokes : 15.0 + Tolerance	Tolerance mm +-: 0.4 Check
cm3/1000 str. + : 2.0 + Shutoff solenoid	tolerance mm + : 0.8 Shutoff solenoid
Volt : 12	Volt : 12
STARTING FUEL DELIVERY	Rated speed rpm : 750
Rated speed rpm : 100	SV travel mm : 1.5
Del. quantity cm3/1000 strokes : 65.0	Tolerance mm +-: 0.4 Check
Tolerance + : 25.0 +	tolerance mm +-: 0.8 Shutoff solenoid
Shutoff solenoid + 12 +	Volt : 12
+	SUPPLY PUMP PRESSURE CHARACTERISTIC
LOAD-DEPENDENT START OF DELIVERY	Rated speed rpm : 1700 Supply pomp
SETTING	pressure bar : 6.9 Tolerance bar +- : 0.3
DELIVERY DIFFERENCE	Shutoff solenoid Volt : 12
Rated speed rpm : 1250	
Del. quantity cm3/1000 strokes : -7.0	Rated speed rpm : 750 Supply pomp
Tolerance + : 1.0	pressure bar : 4.1 Tolerance bar + : 0.3
Shutoff solenoid + 12 +	Shutoff solenoid Volt : 12
PRESSURE DIFFERENCE	OVERFLOW QUANTITY
Rated speed rpm : 1250 Del. quantity	Rated speed rpm : 1850
cm3/1000 strokes : -0.2	Overflow quantity ccm/10s : 97.2 Tolerance
cm3/1000 str. +-: 0.1 Shutoff solenoid	ccm/10s + : 41.6
Volt : 12	Check tolerance ccm/10s +: 55.5
TIMING-DEVICE TRAVEL DIFFERENCE	Shutoff solenoid
Rated speed rpm : 1250	Volt : 12
Del. quantity cm3/1000 strokes : -1.0	Rated speed rpm : 750 Overflow quantity
Tolerance + : 0.1 +	ccm/10s : 63.8 Tolerance
Shutoff solenoid Volt : 12	ccm/10s + : 22.2
12	

		+ Del. quantity
Check tolerance		+ cm3/1000 strokes : 38.5
ccm/10s +-	: 34.7	† Tolerance
Shutoff solenoid		+ cm3/1000 str. +-: 1.5
Volt	: 12	+ Check tolerance
****	, ,,,	+ cm3/1000s. +-: 3.0
DELIVERY AND BREA	MALIAM CHADACTEDIO	
DECIVER! AND BREA	NAMAL CHARACIERTS	
D-A 1	2/00	† Volt : 12
Rated speed rpm	: 2400	†
Del. quantity		+ Rated speed rpm : 1250
cm3/1000 strokes	: 15.0	+ Del. quantity
Tolerance		+ cm3/1000 strokes : 40.0
cm3/1000 str. +-	: 2.0	+ Tolerance
Check tolerance		+ cm3/1000 str. + : 0.5
cm3/1000s. +-	: 4.0	- Check tolerance
Shutoff solenoid	• • • • • • • • • • • • • • • • • • • •	+ cm3/1000s. +: 2.2
Volt	: 12	+ Shutoff solenoid
VOCE	• 12	
Detroil around area	. 2250	+ Volt : 12
Rated speed rpm	: 2250	†
Del. quantity		†
cm3/1000 strokes	: 29.0	
Tolerance		+ ELECTR. SHUTOFF
cm3/1000 str. +-	: 5.0	+ CONTROL LEVER, IDLE STOP
Check tolerance		1
cm3/1000s. +-	: 6.0	Rated speed rpm : 425
Shutoff solenoid		Del. quantity
Volt	: 12	cm3/1000 strokes : 1.5
1 000	• 16	Tolerance
Dated speed see	: 2650	
Rated speed rpm	: 2000	+ cm3/1000 str. + : 1.5
Del. quantity	4 =	+ Check tolerance
cm3/1000 strokes	: 1.5	+ cm3/1000s. +-: 1.5
Tolerance		+ Spread
cm3/1000 str. +	: 1.5	+ cm3/1000 strokes : 5.0
Check tolerance		
cm3/1000s. +-	: 1.5	+ FULL-LOAD STOP CONTROL LEVER
Shutoff solenoid		-
Volt	: 12	Rated speed rpm : 425
, , ,	•	+ Del. quantity
Rated speed rpm	: 1850	- cm3/1000 strokes : 1.5
	. 1000	1
Del. quantity	. /1.0	Tolerance
cm3/1000 strokes	: 41.0	+ cm3/1000 str. +-: 1.5
Tolerance	4.5	+ Spread
cm3/1000 str. +-	: 1.0	+ cm3/1000 strokes : 5.0
Check tolerance	<u>.</u> .	+ Check tolerance
cm3/1000s. +-	: 2.2	+ cm3/1000s. + : 1.5
Shutoff solenoid		+ Spread
Volt	: 12	+ cm3/1000 strokes : 5.0
		<u> </u>
Rated speed rpm	: 450	
Del. quantity		<u> </u>
cm3/1000 strokes	: 39.0	
Tolerance	. 27.0	RESIDUAL QUANTITY
cm3/1000 str. +-	: 3.0	T VESTOOME GOMMITTI
	. 3.0	Dated annual area of 545
Check tolerance		Rated speed rpm : 515
cm3/1000s. +-	: 5.5	+ Del. quantity
		17/4DDD
Shutoff solenoid		+ cm3/1000 strokes : 6.5
Shutoff solenoid Volt	: 12	+ Tolerance
Volt		+ Tolerance
	: 12	Tolerance + cm3/1000 str. +-: 1.0

Shutoff solenoid Volt : 12	+ Shutoff solenoid Volt : 12
	EXHAUST-GAS RECIRCULATION
CHECKING LOAD-DEPENDENT START OF DELIVERY	Rated speed rpm : 1000
DELIVERY DIFFERENCE	+ Del. quantity cm3/1000 strokes : 22.0
Rated speed rpm : 1250 Del. quantity	+ Tolerance + cm3/1000 str. +-: 1.0 + Check tolerance
cm3/1000 strokes : -10.0 Tolerance	cm3/1000s. +: 3.0 Shutoff solenoid
cm3/1000 str. +-: 3.0 Check tolerance	Volt : 12
cm3/1000s. +-: 4.0 Shutoff solenoid	START TRANSITION
Volt : 12	Rated speed rpm : 380 Del. quantity
TIMING-DEVICE TRAVEL DIFFERENCE	cm3/1000 strokes : 35.0 Tolerance
Rated speed rpm : 1250 Del. quantity	- cm3/1000 str. + : 10.0 - Shutoff solenoid
cm3/1000 strokes : -1.0 Tolerance	+ Volt : 12
cm3/1000 str. + : 0.1 Check tolerance	Rated speed rpm : 180
cm3/1000s. +-: 0.1 Shutoff solenoid	Del. quantity cm3/1000 strokes : 65.0
Volt : 12	+ Tolerance - cm3/1000 str. +: 25.0
DELIVERY DIFFERENCE	Shutoff solenoid : 12
Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0	ACCEMBLY AND AD HIGHERIT DIMENOZONO
cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. +-: 3.0	+ ASSEMBLY AND ADJUSTMENT DIMENSIONS
Check tolerance cm3/1000s. + : 3.0	 Dimension K mm : 3,3 Tolerance mm +- : 0,1 Dimension KF mm : 5,3
Shutoff solenoid Volt : 12	Tolerance mm +: 0,2 Dimension MS mm : 1,3
PRESSURE DIFFERENCE	Tolerance imm +: 0,1
Rated speed rpm : 1250	MICROSWITCH
Supply pomp	SET
pressure bar : -0.9 Tolerance bar + : 0.2 Shutoff solenoid	: ARF 12,0
Volt : 12	CONTROL LEVER POSITION SET
TIMING-DEVICE TRAVEL DIFFERENCE	
Rated speed rpm : 1250 Tolerance mm + : 0.2 Check	Control lever position YA mm : 20,022,0
tolerance mm +: 0.6	Control lever position YB mm : 61,572,5

DOCCH THE DEIMO T	EST SPECIFICATIONS
Note remarks	EST SECTIFICATIONS
Refer to Service adjustment instru See microcard(s)	ctions.
Edition Test oil	: 24.07.96 : ISO 4113
Part no. Pump designation	: 0 460 414 126 : VE4/11F1800R647
Customer—spec. in Customer Motor Power KW	formation : JEBSEN : DI 493 Q : 56.0
TEST BENCH REQUIR	EMENTS
Calibrating—oil return temperature °C Tolerance °C +-	: 45 : 1
Overflow restriction mm	: 0.75
Inlet press. bar Tolerance bar +-	: 0.35 : 0.05
Test nozzle holde assembly	: 1 688 901 027
Opening pressure bar Tolerance bar +-	: 250 : 3
Test lines	: 1 680 750 073
Outside diameter	: 6.00
x inside diameter x length mm	: 2.00 : 450

TIMING DEVICE TRAV	VEL		
Rated speed rpm	:	1250	
Setting mm Tolerance mm +- Shutoff solenoid	:	3.2 0.2	
Volt	:	12	
SUPPLY PUMP PRESSU	JRE		
Rated speed rpm Supply pomp	:	1250	
pressure bar Tolerance bar + Shutoff solenoid	:	7.0 0.3	
Volt	:	12	
FULL-LOAD DELIV.	WITH	OUT BOOST	PRESSURE
Rated speed rpm Rated speed rpm	:	1000 550	
Del. quantity cm3/1000 strokes	:	42.0	
Del. quantity cm3/1000 strokes Tolerance	:	24.5	
cm3/1000 str. +	:	0.5	
Tolerance cm3/1000 str. +-	:	0.5	
Spread cm3/1000 strokes	:	3.5	
Spread cm3/1000 strokes Shutoff solenoid	:	3.5	
Volt Shutoff solenoid	:	12	
Volt Check tolerance	:	12	

IDLE SETTING

:	300
:	20.5
:	2.0
:	12
:	3.0
:	6.5
	:

FULL-LOAD SPEED REGULATION

REMARKS

INJECTION PUMP SETTING VALUES

Raited speed rpm : 1950 +	Churches and amount
Del. quantity	Shutoff solenoid Volt : 12
cm3/1000 strokes : 36.0	
Tolerance	Rated speed rpm : 800
cm3/1000 str. +-: 2.0	Supply pomp
Shutoff solenoid	pressure bar : 5.3
Volt : 12	Tolerance bar +: 0.3
STARTING FUEL DELIVERY	Shutoff solenoid Volt : 12
OTTALL OF DETAILS	. 12
Rated speed rpm : 100	OVERFLOW QUANTITY
Del. quantity	
cm3/1000 strokes : 65.0	Rated speed rpm : 550
Tolerance + : 20.0	Overflow quantity
Shutoff solenoid	ccm/10s : 111.1 Tolerance
Volt : 12	ccm/10s +-: 16.6
+	
+	Check tolerance
+	ccm/10s + : 22.2
†	Shutoff solenoid
TALLECTION DUMP TEST OFFICE TOATIONS	Volt : 12
INJECTION-PUMP TEST SPECIFICATIONS	Rated speed rpm : 1800
TIMING DEVICE CHARACTERISTIC	Overflow quantity
	ccm/10s : 152.7
Rated speed rpm : 1800	Tolerance
+	ccm/10s ←: 27.7
SV travel mm : 5.6	
Tolerance mm +: 0.4	Check tolerance
Check tolerance mm + : 0.7	ccm/10s +-: 41.6 Shutoff solenoid
Shutoff solenoid	Volt : 12
Volt : 12	
+	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm : 800 +	
CV through the	Rated speed rpm : 1950
SV trave! mm : 0.8 + Tolerance mm +-: 0.4	Del. quantity cm3/1000 strokes : 36.0
Check	Tolerance
tolerance mm +-: 0.7	cm3/1000 str. +-: 2.0
Shutoff solenoid +	Check tolerance
Volt : 12 +	cm3/1000s. +-: 4.5
Rated speed rpm : 1700	Shutoff solenoid Volt : 12
Rated speed rpm : 1700	Volt : 12
SV travel mm : 5.2	Rated speed rpm : 2050
Toterance mm +-: 0.4	Del. quantity
Check	cm3/1000 strokes : 5.0
tolerance mm +-: 0.7	Check tolerance
Shutoff solenoid	cm3/1000s. +: 5.0
Volt : 12	Shutoff solenoid Volt : 12
SUPPLY PUMP PRESSURE CHARACTERISTIC	vuii . 12
Total Control of the	Rated speed rpm : 2100
Rated speed rpm : 1800	Del. quantity
Supply pomp +	cm3/1000 strokes : 2.5
pressure bar : 9.0	Tolerance
Tolerance bar +-: 0.3	cm3/1000 str. +-: 2.5
Τ	

Charle delamence		
Check tolerance	2 5	+ Spread
cm3/1000s. +:	2.5	+ cm3/1000 strokes : 5.0
Shutoff solenoid	•-	+ Check tolerance
Volt :	12	+ cm3/1000s. $+-$: 1.5
		+ Spread
Rated speed rpm :	2000	+ cm3/1000 strokes : 5.0
Del. quantity		Shutoff solenoid
cm3/1000 strokes :	20.0	+ Volt : 12
Tolerance	2010	
cm3/1000 str. +-:	10.0	
Check tolerance	10.0	ELECTR. SHUTOFF
cm3/1000s. +-:	10.0	
Shippost salabaid	10.0	CONTROL LEVER, IDLE STOP
Shutoff solenoid	40	†
Volt :	12	+ Rated speed rpm : 300
		+ Del. quantity
Aneroid pressure		+ cm3/1000 strokes : 1.5
hPa :		+ Tolerance
		+ cm3/1000 str. +-: 1.5
LDA/		+ Check tolerance
HBA stroke mm :	6.8	+ cm3/1000s. $+-$: 1.5
		+ Spread
Rated speed rpm :	1800	+ cm3/1000 strokes : 5.0
Del. quantity	. = = =	1 3.0
cm3/1000 strokes :	48.5	FULL-LOAD STOP CONTROL LEVER
Tolerance	40.5	T TOLE LOAD STOP CONTROL LEVER
cm3/1000 str. + :	2.5	T Botad around non a 700
	2.3	Rated speed rpm : 300
Check tolerance	7 5	+ Del. quantity
cm3/1000s. +:	3.5	+ cm3/1000 strokes : 1.5
Shutoff solenoid	• -	+ Tolerance
Volt :	12	+ cm3/1000 str. $+$: 1.5
		+ Spread
Rated speed rpm :	800	+ cm3/1000 strokes : 5.0
Del. quantity		+ Check tolerance
cm3/1000 strokes :	38.0	+ cm3/1000s. $+$: 1.5
Tolerance		Spread
cm3/1000 str. +-:	2.5	+ cm3/1000 strokes : 5.0
Check tolerance		
cm3/1000s. +-:	3.5	IDLE DELIVERY
Shutoff solenoid	3. 3	Total value of the same of the
Volt :	12	Rated speed rpm : 450
	12	
Rated speed rpm :	550	+ Del. quantity + cm3/1000 strokes : 2.5
	550	,
Del. quantity	3/. F	+ Tolerance
cm3/1000 strokes :	24.5	+ cm3/1000 str. +-: 2.5
Tolerance	0 "	+ Check tolerance
cm3/1000 str. +-:	0.5	+ cm3/1000s. + : 2.5
Check tolerance		+ Shutoff solenoid
cm3/1000s. + :	3.5	+ Volt : 12
Shutoff solenoid		+
Volt :	12	+ Rated speed rpm : 250
		<pre>Del. quantity</pre>
		- + cm3/1000 strokes : 42.5
MECHANICAL SHUTOFF		+ Tolerance
		+ cm3/1000 str. $+$: 5.0
Rated speed rpm :	1800	+ Check tolerance
Del. quantity		+ cm3/1000s. +-: 6.0
cm3/1000 strokes :	1.5	+ Shutoff solenoid
Tolerance	, , ,	+ Volt : 12
cm3/1000 str. +-:	1.5	1
011137 TOOU 3 CT	1 • 2	1
		ı

START TRANSITION

Rated speed rpm : 470 Del. quantity

cm3/1000 strokes : 30.0

Tolerance

cm3/1000 str. + : 20.0

Shutoff solenoid

Volt : 12

Rated speed rpm : 370

Del. quantity

cm3/1000 strokes : 70.0

Tolerance

cm3/1000 str. + : 20.0

Shutoff solenoid

Val* : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 6.8

Dimension K mm : 3,3
Tolerance mm + : 0,1
Dimension KF mm : 8,4
Tolerance mm + : 0,2
Dimension MS mm : 1,2

Tolerance mm + : 0,2

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 36,2..40,2

Control lever

position YB mm : 48,3..53,7

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 03,12,96 Edition : ISO 4113 Test oil

: 0 460 414 154 Part no. Pump designation: VE4/11F2000R711

Customer-spec. information Customer : OTOSAN : 2.5L-DITC Motor Power KW 74.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance *C +-:

Overflow

restriction mm 0.75

Inlet press. bar : 0.35Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 114 assembly

Opening pressure

bar 207 Tolerance bar +-:

Test lines : 1 680 750 073

Outside diameter :

x inside diameter : 2.00 x length mm 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,62 Tolerance mm +: 0.05

Outlet : B KDEP1151

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1250

Aneroid pressure

hPa 1000

Setting mm 3.2 Tolerance mm 0.3 Shutoff solenoid 12

Volt

1250 Rated speed rpm

Aneroid pressure

SUPPLY PUMP PRESSURE

hPa 1000

Supply pomp

pressure bar 7.0 Tolerance bar +-: 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 800

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 42.0

Tolerance

cm3/1000 str. +-:0.2

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 1000

Del. quantity

cm3/1000 strokes : 29.0

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 3.0

Shutoff solenoid

Volt 12

Check tolerance

cm3/1000s. 4.0

IDLE SETTING

Rated speed rpm 425

Del. quantity cm3/1000 strokes Tolerance	: 7.7	TIMING-DEVICE TRAVEL DIFFERENCE
cm3/1000 str. +- Shutoff solenoid	: 1.0	Rated speed rpm : 1500 Del. quantity
Volt Spread	: 12	+ cm3/1000 strokes : -1.8 + Tolerance
cm3/1000 strokes Check tolerance	: 3.0	+ cm3/1000 str. + : 0.1 + Shutoff solenoid
cm3/1000s.	: 4.0	Volt : 12
		INJECTION-PUMP TEST SPECIFICATIONS
FULL-LOAD SPEED RE	EGULATION	TIMING DEVICE CHARACTERISTIC
Dated cheed rom	: 2200	+ Rated speed rpm : 1500
Rated speed rpm Pressure hPa	: 2200	+ Aneroid pressure
Del. quantity cm3/1000 strokes	: 17.8	hPa : 1000
Tolerance		SV travel mm : 4.7
cmi/1000 str. +- Shutoff solenoid	: 1.0	+ Tolerance mm + : 0.4 + Check
Volt	: 12	tolerance mm +: 0.9 Shutoff solenoid
STARTING FUEL DELI	CVERY	+ Volt : 12
Rated speed rpm Del. quantity	: 100	Rated speed rpm : 1000 Aneroid pressure
cm3/1000 strokes Tolerance	: 80.0	hPa : 1000
cm3/1000 str. +	: 20.0	SV travel mm : 1.9
Shutoff solenoid Volt	: 12	+ Tolerance mm + : 0.4 + Check
		tolerance mm + : 0.9 Shutoff solenoid
LOAD-DEPENDENT STA	ADT AC NELTHEON	Volt : 12
SETTING	IK! OF DELIVER!	SUPPLY PUMP PRESSURE CHARACTERISTIC
DELIVERY DIFFERENCE	E	Rated speed rpm : 2000 Aneroid pressure
Rated speed rpm Del. quantity	: 1500	+ hPa : 1000 + Supply pomp
cm3/1000 strokes	: -5.6	+ pressure bar : 9.0
Tolerance cm3/1000 str. +	: 1.0	+ Tolerance bar + : 0.3 + Shutoff solenoid
Shutoff solenoid Volt	: 12	+ Volt : 12
PRESSURE DIFFERENCE		Rated speed rpm : 1000 Aneroid pressure
	: 1500	+ hPa : 1000 + Supply pomp
Del. quantity		+ pressure bar : 6.3
cm3/1000 strokes Tolerance	: -0.2	<pre>+ Tolerance bar + : 0.3 + Shutoff solenoid</pre>
cm3/1000 str. +- Shutoff solenoid	: 0.1	Volt : 12

OVERFLOW QUANTITY

Volt

cm3/1000 str. + :Shutoff solenoid

12

Rated speed rpm :	800	+	Check tolerance			
Aneroid pressure		+	cm3/1000s. +-	:	1.5	
hPa :	1000	†	Shutoff solenoid		40	
Overflow quantity ccm/10s :	133.3	†	Volt	:	12	
Tolerance	133.3	I	Rated speed rpm	:	1000	
ccm/10s +:	22.2	1	Aneroid pressure	•	1000	
		+	hPa	:	450	
Check tolerance	00.0	+				
ccm/10s +: Shutoff solenoid	22.2	†	LDA/ HBA stroke mm		5 7	
Volt :	12	I	Del. quantity	:	5.3	
		1	cm3/1000 strokes	:	35.0	
Rated speed rpm :	1950	+	Tolerance			
Aneroid pressure	4000	+	cm3/1000 str. +-	:	0.5	
hPa :	1000	. †	Check tolerance cm3/1000s. +-		3.0	
Overflow quantity ccm/10s :	152.7	I	cm3/1000s. +- Shutoff solenoid	•	3.0	
Tolerance	()211	1	Volt	:	12	
ccm/10s + :	41.6	+				
		+	Raiced speed rpm	:	1950	
Check tolerance ccm/10s +-:	41.6	†	Aneroid pressure hPa		1000	
Shutoff solenoid	41.0	I	Del. quantity	•	1000	
Volt :	12	+	cm3/1000 strokes	:	42.0	
		+	Tolerance			
DELIVERY AND BREAKA	WAY CHARACTERISTIC	+	cm3/1000 str. +	:	1.2	
Rated speed rpm :	2200	1	Check tolerance cm3/1000s. +-		2.5	
Aneroid pressure	2200	I	Shutoff solenoid	•	2.7	
hPa :	1000	+	Volt	:	12	
Del. quantity	45 6	+				
cm3/1000 strokes : Tolerance	17.8	†	Rated speed rpm Aneroid pressure	:	1750	
cm3/1000 str. +:	1.0	I	hPa	•	1000	
Check tolerance		+	Del. quantity	•		
cm3/1000s. +:	5.0	+	cm3/1000 strokes	:	42.0	
Shutoff solenoid	12	†	Tolerance cm3/1000 str. +		4.2	
Volt :	16	I	Check tolerance	•	1.2	
Rated speed rpm :	2150	+	cm3/1000s. +-	:	2.5	
Aneroid pressure		+	Shutoff solenoid			
hPa :	1000	†	Volt	:	12	
Del. quantity cm3/1000 strokes :	24.5	Ī	Rated speed rpm		800	
Tolerance	£4.7	1	Aneroid pressure	•	000	
cm3/1000 str. +:	3.0	+	hPa	:	1000	
Check tolerance		+	Dei. quantity		40.0	
cm3/1000S. +-: Shutoff solenoid	6.0	†	cm3/1000 strokes Tolerance	:	42.0	
Volt :	12	I	cm3/1000 str. +	:	0.2	
		+	Check tolerance			
Rated speed rpm :	2350	+	cm3/1000s. +-	:	3.0	
Aneroid pressure	1000	†	Shutoff solenoid		12	
<pre>hPa : Del. quantity</pre>	1000	1	Volt	•	12	
cm3/1000 strokes :	1.5	+				
Tolerance		+				
cm3/1000 str. + :	1.5	†	ELECTR. SHUTOFF	_ ^	TOD	
		+	CONTROL LEVER, IDL	ב א	TOP	

Data di anno di anno di COO	+ Del. quantity
Rated speed rpm : 500	+ cm3/1000 strokes : 5.0
Del. quantity	+ Tolerance
cm3/1000 strokes : 1.5	+ cm3/1000 str. $+-$: 3.0
Tolerance	+ Check tolerance
cm3/1000 str. +-: 1.5	+ cm3/1000s. $+$: 3.0
Check tolerance	+ Shutoff solenoid
cm3/1000s. +-: 1.5	+ Volt : 12
Spread	1
cm3/1000 strokes : 5.0	T PRESCURE NIESERENCE
CIIDY 1000 2510K62 : 2.0	+ PRESSURE DIFFERENCE
PULL LOAD OTOD CONTROL LEVED	4500
FULL-LOAD STOP CONTROL LEVER	+ Rated speed rpm : 1500
	+ Supply pomp
Rated speed rpm : 500	+ pressure bar : -1.5
Del. quantity	+ Tolerance bar + : 0.3
cm3/1000 strokes : 1.5	+ Shutoff solenoid
Tolerance	+ Volt : 12
cm3/1000 str. +: 1.5	
Spread	TIMING-DEVICE TRAVEL DIFFERENCE
cm3/1000 strokes : 5.0	TITLING NEATOR INVARE NTILEMENAGE
Check tolerance	↑ Rated speed rpm : 1500
	, ,
	Tolerance mm + : 0.6
Spread	+ Check
cm3/1000 strokes : 5.0	tolerance mm +-: 0.6
	+ Shutoff solenoid
	+ Volt : 12
	+
	-
	+ START TRANSITION
	TAKE TRANSPILON
CHECKING LOAD-DEPENDENT	+
CHECKING LOAD-DEPENDENT START OF DELIVERY	Rated speed rpm : 480
CHECKING LOAD-DEPENDENT START OF DELIVERY	+ Rated speed rpm : 480 + Del. quantity
START OF DELIVERY	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0
	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance
START OF DELIVERY DELIVERY DIFFERENCE	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +- : 3.0	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +-: 3.0 Check tolerance	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +- : 3.0	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +-: 3.0 Check tolerance	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 5.0 Shutoff solenoid	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 5.0	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid Volt : 12	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0 Shutoff solenoid
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 5.0 Shutoff solenoid	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0 Shutoff solenoid
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1500	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0 Shutoff solenoid Volt : 12
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1500 Del. quantity	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0 Shutoff solenoid
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -1.8	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0 Shutoff solenoid Volt : 12
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -1.8 Tolerance	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -1.8 Tolerance cm3/1000 str. + : 0.1	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -1.8 Tolerance cm3/1000 str. + : 0.1 Check tolerance	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ HBA stroke mm : 5.3
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -1.8 Tolerance cm3/1000 str. +- : 0.1 Check tolerance cm3/1000s. +- : 0.1	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ HBA stroke mm : 5.3 Dimension K mm : 2,8
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -1.8 Tolerance cm3/1000 str. +- : 0.1 Check tolerance cm3/1000s. +- : 0.1 Shutoff solenoid	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ HBA stroke mm : 5.3
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -1.8 Tolerance cm3/1000 str. +- : 0.1 Check tolerance cm3/1000s. +- : 0.1	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ HBA stroke mm : 2,8 Tolerance mm + : 0,1
DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -1.8 Tolerance cm3/1000 str. +- : 0.1 Check tolerance cm3/1000s. +- : 0.1 Check tolerance cm3/1000s. +- : 0.1 Shutoff solenoid	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ HBA stroke mm : 2,8 Tolerance mm + : 0,1 Dimension KF mm : 8,4
START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +-: 3.0 Check tolerance cm3/1000s. +-: 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -1.8 Tolerance cm3/1000 str. +-: 0.1 Check tolerance cm3/1000s. +-: 0.1 Shutoff solenoid Volt : 12	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ HBA stroke mm : 2,8 Tolerance mm + : 0,1 Dimension KF mm : 8,4 Tolerance mm + : 0,2
DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -8.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -1.8 Tolerance cm3/1000 str. +- : 0.1 Check tolerance cm3/1000s. +- : 0.1 Check tolerance cm3/1000s. +- : 0.1 Shutoff solenoid	Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 str. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 str. + : 15.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ HBA stroke mm : 2,8 Tolerance mm + : 0,1 Dimension KF mm : 8,4

Rated speed rpm : 1500

CONTROL LEVER POSITION SET

Control lever

position YA mm : 42,8..45,8

Control lever

position YB mm : 59,5..71,5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 26.06.84 Test oil : ISO 4113

Part no. : 0 460 494 044 Pump designation : VE4/9F230OR54

Customer-spec. information
Customer : FIAT-AUTO
Motor : X 8 / 28

TEST BENCH REQUIREMENTS

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 000

Opening pressure

bar : 147 Tolerance bar + : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Setting mm : 4.5 Tolerance mm +-: 0.2 Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1500

Supply pomp

pressure bar : 5.4 Tolerance bar + : 0.3

Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1500

Del. quantity cm3/1000 strokes : 34.7

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 2.5

Shutoff solenoid

Volt : 12

IDLE SETTING

Rated speed rpm : 350 Del. quantity

cm3/1000 strokes : 10.0

Tolerance

cm3/1000 str. + : 2.0

Shutoff solenoid

Volt : 12

Spread

cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s. : 3.0

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2400

Del. quantity

cm3/1000 strokes : 19.0

Tolerance

cm3/1000 str. +-: 3.0

Shutoff solenoid

Volt : 12

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 63.0

Tolerance

cm3/1000 str. + : 15.0

Shutoff solenoid

Volt : 12

	+
LOAD-DEPENDENT START OF DELIVERY	+ Rated speed rpm : 2250
SETTING	+ Overflow quantity
TTAITHE APLICATION TRAVEL ATPROPRIE	+ ccm/10s : 97.2
TIMING-DEVICE TRAVEL DIFFERENCE	Tolerance
Onted around non . 1500	+ ccm/10s +-: 41.6
Rated speed rpm : 1500 Del. quantity	Chook tolorones
cm3/1000 strokes : -0.7	+ Check tolerance + ccm/10s +-: 41.6
Tolerance	+ ccm/10s +-: 41.6 + Shutoff solenoid
cm3/1000 str. +-: 0.1	Volt : 12
Shutoff solenoid	. 12
Volt : 12	+ Rated speed rpm : 600
	+ Overflow quantity
	+ ccm/10s : 62.5
INJECTION-PUMP TEST SPECIFICATIONS	+ Tolerance
	+
TIMING DEVICE CHARACTERISTIC	+
	+ Check tolerance
Rated speed rpm : 2300	+
	+ Shutoff solenoid
SV travel mm : 7.6	+ Volt : 12
Tolerance mm + : 0.4	+
Check	† DELIVERY AND BREAKAWAY CHARACTERISTIC
tolerance mm + : 0.7	+
Shutoff solenoid	- Rated speed rpm : 2400
Volt : 12	t Del. quantity
Datad around num a 900	- cm3/1000 strokes : 19.0
Rated speed rpm : 800	Tolerance
CV denoted mm	- cm3/1000 str. + : 3.0
SV trevel mm : 2.1 Tolerance mm + : 0.4	+ Check tolerance
Tolerance mm +: 0.4 Check	+ cm3/1000s. +-: 4.0 + Shutoff solenoid
tolerance mm +-: 0.7	+ Volt : 12
Shutoff solenoid	I vocc · 'E
Volt : 12	Rated speed rpm : 2500
1 12	Del. quantity
Rated speed rpm : 400	+ cm3/1000 strokes : 7.5
Shutoff solenoid	+ Check tolerance
Volt : 12	+ cm3/1000s. +-: 5.0
	+ Shutoff solenoid
SUPPLY PUMP PRESSURE CHARACTERISTIC	}
	+
Rated speed rpm : 2300	+ Rated speed rpm : 2250
Supply pomp	† Del. quantity
pressure bar : 7.2	+ cm3/1000 strokes : 29.0
Tolerance bar + : 0.3	+ Tolerance
Shutoff solenoid	+ cm3/1000 str. + : 1.3
Volt : 12	+ Check tolerance
2 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	+ cm3/1000s. + : 2.3
Rated speed rpm : 1000	+ Shutoff solenoid
Poted around num + 400	† Volt : 12
Rated speed rpm : 400	Detail aread man 4 400
Supply pomp pressure bar : 2.8	+ Rated speed rpm : 600
Tolerance bar +-: 0.3	+ Del. quantity + cm3/1000 strokes : 25.0
Shutoff solenoid	+ Tolerance
Volt : 12	- cm3/1000 str. +-: 1.5
, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	+ Check tolerance
OVERFLOW QUANTITY	+ cm3/1000s. +-: 3.0
and the second s	,

Shutoff solenoid Volt : 12	+ Rated speed rpm : 1500 + Del. quantity
Rated speed rpm : 1500	cm3/1000 strokes : -0.7 Tolerance
Del. quantity	+ cm3/1000 str. +: 0.1
cm3/1000 strokes : 34.7 Tolerance	Check tolerance cm3/1000s. +: 0.1
cm3/1000 str. +: 0.5 Check tolerance	Shutoff solenoid : 12
cm3/1000s. +: 2.3 Shutoff solenoid	+
Volt : 12	START TRANSITION
	Rated speed rpm : 500 Del. quantity
ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP	cm3/1000 strokes : 25.0 Tolerance
Rated speed rpm : 350	cm3/1000 str. +: 5.0 Shutoff solenoid
Del. quantity om3/1000 strokes : 1.5	Volt : 12
Tolerance cm3/1000 str. + : 1.5	Retail and divine (60
Check tolerance	Rated speed rpm : 400 Del. quantity
cm3/1000s. +-: 1.5	cm3/1000 strokes : 40.0 Tolorance
IDLE DELIVERY	cm3/1000 str. +: 10.0 Shutoff solenoid
Rated speed rpm : 400	+ Volt : 12
Del. quantity cm3/1000 strokes : 2.0	ASSEMBLY AND ADJUSTMENT DIMENSIONS
Tolerance cm3/1000 str. +-: 2.0	Dimension K mm : 3,3
Check tolerance cm3/1000s. +-: 2.0	Tolerance mm + : 0,1 + Dimension KF mm : 5,8
Shutoff solencid Volt : 12	+ Tolerance min + : 0,2
	+ Tolerance mm + : 0,1
	+ SVS dimension mm : 3,7
	-
CHECKING LOAD—DEPENDENT START OF DELIVERY	<u> </u>
DELIVERY DIFFERENCE	End of test-specification sheet
Rated speed rpm : 1500 Del. quantity	
cm3/1000 strokes ; -13.0 Tolerance	‡
cm3/1000 str. + : 4.0 Check tolerance	<u>†</u>
cm3/1000s. +-: 4.0	+
Shutoff solenoid Volt : 12	-
	+

TIMING-DEVICE TRAVEL DIFFERENCE

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.07.96 Edition : ISO 4113 Test oil

: 0 460 426 252 Part no. Pump designation : VE6/12F1350R623-1

Customer-spec. information Customer : IVECO-FIAT : 8060.45.5200 Motor Power KW 152.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance *C +-:

Overflow

restriction mm : 0.55

0.35 Inlet press. bar : Tolerance bar + : 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 bar Tolerance bar + :

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1050

Aneroid pressure

hPa 1000

2.2 Setting mm Tolerance mm +-: 0.1 Shutoff solenoid

Volt 24

KSB/AFB Volt 24

SUPPLY PUMP PRESSURE

Rated speed rpm 1000

Aneroid pressure

hPa 1000

Supply pomp

pressure bar 5.8 Tolerance bar + : 0.3

Shutoff solenoid

Volt 24

KSB/AFB Volt 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 700 Aneroid pressure

hPa. 1000

Del. quantity cm3/1000 strokes : 82.9

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. 5.0

Shutoff solenoid

Volt 24

KSB/AFB Volt : 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 47.1

Tolerance

cm3/1000 str. + :0.5

Shutoff solenoid 24 Volt

Check tolerance

cm3/1000s. 5.0

24 KSB/AFB Volt :

IDLE SETTING

Rated speed rpm	: 340	+		_
Del. quantity	. 45.0	+ KSB/AFB Volt	:	24
cm3/1000 strokes Tolerance	: 15.0	+ Setting point I + Rated speed rp		340
cm3/1000 str. +-	: 2.0	Aneroid pressu		340
Shutoff solenoid		+ hPa	:	1000
Volt	: 24	†		3.0
Spread cm3/1000 strokes	: 4.0	+ SV travel mm + Tolerance mm	:	3.2 0.8
Check tolerance	. 4.0	- Check		0.0
cm3/1000s.	: 5.0	+ tolerance mm	+- :	1.2
	24	+ Shutoff soleno	id	21
KSB/AFB Volt	: 24	† Volt	:	24
		Rated speed rpr	n :	470
		Aneroid pressu		
		+ hPa	:	1000
FULL-LOAD SPEED R	EGULATION	+ SV travel mm		3.2
Rated speed rpm	: 1450	Tolerance mm	+- :	0.8
Pressure hPa	: 1000	Check	•	3.3
Del. quantity		+ tolerance mm	+- :	1.2
cm3/1000 strokes	: 57.0	+ Shutoff soleno + Volt	id .	24
Tolerance cm3/1000 str. +	: 2.0	I voct	•	24
Shutoff solenoid		SUPPLY PUMP PRE	ESSURE	CHARACTERISTIC
Volt	: 24	+		
KCD/AED Volt	: 24	+ Rated speed rpm		1350
KSB/AFB Volt	: 24	+ Aneroid pressur + hPa	·e	1000
STARTING FUEL DEL	IVERY	+ Supply pomp	•	,,,,,
		+ pressure bar	:	8.7
Rated speed rpm	: 100	+ Tolerance bar + Shutoff soleno		0.3
Del. quantity cm3/1000 strokes	: 85.0	+ Volt	:	24
Tolerance		+	•	_,
cm3/1000 str. +	: 25.0	+ KSB/AFB Volt	:	24
Shutoff solenoid Volt	: 24	+ Rated speed rpm		600
VOLT	. 24	Aneroid pressur		000
KSB/AFB Volt	: 24	+ hPa	:	1000
		dwod kladns +		
		+ pressure bar + Tolerance bar	_:	4.4 0.3
		Shutoff solenoi		0.5
			:	24
INJECTION-PUMP TES	ST SPECIFICA			2/
TIMING DEVICE CHAP	PACTERISTIC	+ KSB/AFB Volt	•	24
TIMING DEVICE ONA	(ACTENIOTIO	Rated speed rpm		470
Rated speed rpm	: 950	+ Aneroid pressur		4000
Aneroid pressure	: 1000	+ hPa	•	1000
hPa	. 1000	+ Supply pomp + pressure bar	•	9.0
SV travel mm	: 1.0	+ Tolerance bar		0.3
Tolerance mm +-	: 0.3	+ Shutoff solenoi		2/
Check	: 0.7	† Volt	:	24
tolerance mm +- Shutoff solenoid	. 0.7	Rated speed rpm	:	340
Volt	: 24	+	-	

Aneroid pressure	:	1000	‡	Del. quantity cm3/1000 strokes :	27.0
Subbly bomb		0.77	+	Check tolerance	
pressure bar	:	8.3	†	cm3/1000s. +-:	6.0
Tolerance bar +- Shutoff solenoid	:	1.0	†	Shutoff solenoid	24
Volt		24	†	Volt :	24
VOCC	•	24	I	KSB/AFB Volt :	24
OVERFLOW QUANTITY			I	RSB/AIB VOCC .	24
			1	Rated speed rpm :	1600
Rated speed rpm	:	1350	+	Aneroid pressure	,,,,,
Aneroid pressure			+	hPa :	1000
hPa	:	1000	+	Del. quantity	
Overflow quantity		07.7	+	cm3/1000 strokes :	1.5
ccm/10s Tolerance	:	83. 3	†	Tolerance	1 5
ccm/10s +-	•	27.7	I	cm3/1000 str. +-: Check tolerance	1.5
COM7 (OS	•		I	cm3/1000s. +-:	1.5
Check tolerance			1	Shutoff solenoid	
ccm/10s +	:	27.7	+	Volt :	24
Shutoff solenoid			+		
Volt	:	24	+	KSB/AFB Volt :	24
VCD/ACD Vala		2/	+	De Land III de	400
KSB/AFB Volt	:	24	†	Rated speed rpm :	600
Rated speed rpm	:	500	<u>J</u> .	Aneroid pressure hPa :	400
Aneroid pressure	•	200	1	Del. quantity	400
hPa	:	1000	1	cm3/1000 strokes :	70.7
Overflow quantity		-	1	Tolerance	
ccm/10s	:	63.8	+	cm3/1000 str. + :	0.5
Tolerance			+	Check tolerance	
ccm/10s +-	:	16.6	+	cm3/1000s. +-:	4.0
Check tolerance			†	Shutoff solenoid Volt :	24
ccm/10s +-		16.6	I	voct :	24
Shutoff solenoid	•		1	KSB/AFB Volt :	24
Volt	:	24	1	1100/1110 4000	
			+	Rated speed rpm :	1350
KSB/AFB Volt	:	24	+	Aneroid pressure	
API 71 (PM) AND MONAL			+	hPa :	1000
DELIVERY AND BREA	KAWA	Y CHARACTERIST	1C +	Del. quantity	70.0
Rated speed rpm	:	1450	1	cm3/1000 strokes : Tolerance	79.8
Aneroid pressure	•	1450	I	cm3/1000 str. +-:	1.5
hPa	:	1000	1	Check tolerance	1.5
Del. quantity			+	cm3/1000s. +-:	3.5
cm3/1000 strokes	:	57.0	+	Shutoff solenoid	
Tolerance			+	Volt :	24
cm3/1000 str. +-	:	2.0	†	1400 / A 5D	24
Check tolerance cm3/1000s. +-		6.0	†	KSB/AFB Volt :	24
Shutoff solenoid	•	0.0	I	Rated speed rpm :	1200
Volt	:	24	1	Aneroid pressure	1200
			1	hPa :	1000
KSB/AFB Volt	:	24	+	Del. quantity	
		4570	+	cm3/1000 strokes :	84.1
Rated speed rpm	:	1530	+	Tolerance	2.0
Aneroid pressure hPa		1000	†	cm3/1000 str. +-:	2.0
ııra	•	1000	Ī	Check tolerance cm3/1000s. +-:	3.5
			T	CIID/ 10000;	٠.٦

Shutoff solenoid	4	-	
Volt :	24 -	IDLE DELIVERY	
KSB/AFB Volt :	24	- Rated speed rpm : - Del. quantity	425
Rated speed rpm : Aneroid pressure	500	- cm3/1000 strokes : - Tolerance	1.5
hPa : Del. quantity	1000 -	cm3/1000 str. + : Check tolerance	1.5
cm3/1000 strokes : Tolerance	85.2	- cm3/1000s. +-: - Shutoff solenoid	1.5
cm3/1000 str. +-: Check tolerance	2.0	- Volt :	24
cm3/1000s. +: Shutoff solenoid	3.5	- KSB/AFB Volt :	24
Volt :	24	Rated speed rpm : Del. quantity	370
KSB/AFB Volt :	24	- cm3/1000 strokes : - Tolerance	5.0
Rated speed rpm : Aneroid pressure	700	- cm3/1000 str. +-: Check tolerance	3.0
hPa : Del. quantity	1000	- cm3/1000s. +-: - Shutoff solenoid	5.0
cm3/1000 strokes : Tolerance	82.9	- Volt :	24
cm3/1000 str. +-: Check tolerance	0.5	KSB/AFB Volt :	24
cm3/1000s. + : Shutoff solenoid	3.5	-	
Volt :	24		
• • • • • • • • • • • • • • • • • • • •	27		
		STADT TDANSITION	
ELECTR. SHUTOFF		START TRANSITION	
		- Rated speed rpm :	350
ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm :		Rated speed rpm : Del. quantity cm3/1000 strokes :	
ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm : Del. quantity cm3/1000 strokes :	STOP	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +- :	
ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + :	STOP -	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance	55.0
ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + :	STOP - 350 - 1.5	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Shutoff solenoid	55.0 10.0
ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance	350 1.5 1.5	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Shutoff solenoid Volt : KSB/AFB Volt :	55.0 10.0 24 24
ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Spread	350 1.5 1.5 1.5 5.0	Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Shutoff solenoid Volt: KSB/AFB Volt: Rated speed rpm: Del. quantity	55.0 10.0 24 24 200
ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Spread cm3/1000 strokes : FULL-LOAD STOP CONTR	350 1.5 1.5 1.5 5.0	Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Shutoff solenoid Volt: KSB/AFB Volt: Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance	55.0 10.0 24 24 200 100.0
ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Spread cm3/1000 strokes: FULL-LOAD STOP CONTR Rated speed rpm: Del. quantity cm3/1000 strokes:	350 1.5 1.5 1.5 5.0	Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Shutoff solenoid Volt: KSB/AFB Volt: Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Shutoff solenoid	55.0 10.0 24 24 200 100.0 25.0
ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Spread cm3/1000 strokes: FULL-LOAD STOP CONFF Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes:	350 1.5 1.5 1.5 5.0 ROL LEVER	Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Shutoff solenoid Volt: KSB/AFB Volt: Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Shutoff solenoid Volt:	55.0 10.0 24 24 200 100.0 25.0 24
ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Spread cm3/1000 strokes: FULL-LOAD STOP CONTR Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Spread cm3/1000 strokes:	350 1.5 1.5 1.5 5.0 ROL LEVER 350	Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Shutoff solenoid Volt: KSB/AFB Volt: Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Shutoff solenoid	55.0 10.0 24 24 200 100.0 25.0
ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Spread cm3/1000 strokes: FULL-LOAD STOP CONTR Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000 strokes: Check tolerance cm3/1000s. +:	350 1.5 1.5 1.5 5.0 ROL LEVER 350 1.5	Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Shutoff solenoid Volt: KSB/AFB Volt: Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Shutoff solenoid Volt:	55.0 10.0 24 24 200 100.0 25.0 24 24
ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Spread cm3/1000 strokes: FULL-LOAD STOP CONTR Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Spread cm3/1000 strokes: Check tolerance	350 1.5 1.5 1.5 5.0 ROL LEVER 350 1.5 1.5	Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Shutoff solenoid Volt: KSB/AFB Volt: Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Shutoff solenoid Volt: KSB/AFB Volt:	55.0 10.0 24 24 200 100.0 25.0 24 24 24

Dimension KF mm : 8,4
Tolerance mm + : 0,2
MS1 dimension mm : 1,45
Tolerance mm + : 0,15

End of test-specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 23,01,97 Edition Test oil : ISO 4113

: 0 460 494 393 Part no. Pump designation: VE4/9F2250R593-2

Customer-spec. information Customer : RENAULT Motor : G8T - 760 Power KW 81.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C +-:

Overflow

restriction mm 0.55

Inlet press, bar : 0.35 Tolerance bar + :

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

bar 130 Tolerance bar + :

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Aneroid pressure

hPa 1000

Setting mm 8.5 Tolerance mm +-: 0.2 Shutoff solenoid Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Aneroid pressure

hPa 1000 Supply pomp

5.4 pressure bar Tolerance bar + : 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1250 Aneroid pressure hPa 1000 Del. quantity cm3/1000 strokes : 58.7 Tolerance cm3/1000 str. +-: 0.5Spread cm3/1000 strokes : Check tolerance cm3/1000s. 3.0 Shutoff solenoid 12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm Del. quantity cm3/1000 strokes : 43.0 Tolerance cm3/1000 str. +: 0.5 Shutoff solenoid Volt 12 Check tolerance cm3/1000s. 3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : Del. quantity

cm3/1000 strokes :

7.0

Tolerance

cm3/1000 str. ←: 2.0

Shutoff solenoid Volt : 12	+ Shutoff solenoid + Volt : 12
IDLE DELIVERY	PRESSURE DIFFERENCE
Rated speed rpm : 350 Del. quantity	Rated speed rpm : 1250 Del. quantity
cm3/1000 strokes : 22.5 Tolerance	- cm3/1000 strokes : -0.2 - Tolerance
cm3/1000 str. +-: 2.0 Spread	cm3/1000 str. + : 0.1 Shutoff solenoid
cm3/1000 strokes : 2.5 Shutoff solenoid	Volt : 12
Volt : 12	TIMING-DEVICE TRAVEL DIFFERENCE
HIGH IDLE SETTING	+ Rated speed rpm : 1250 + Del. quantity
Rated speed rpm : 400 Del. quantity	- cm3/1000 strokes : -0.7 - Tolerance
cm3/1000 strokes : 29.5 Tolerance	+ cm3/1000 str. +-: 0.1 + Shutoff solenoid
cm3/1000 str. +-: 2.0 Shutoff solenoid	+ Volt : 12
Volt : 12	INJECTION-PUMP TEST SPECIFICATIONS
FULL-LOAD SPEED REGULATION Rated speed rpm : 2450	TIMING DEVICE CHARACTERISTIC
Pressure hPa : 1000 Del. quantity	Rated speed rpm : 2150 Aneroid pressure
cm3/1000 strokes : 30.0 Tolerance	Rated speed rpm : 2150 Aneroid pressure hPa : 1000 SV travel mm : 5.9
cm3/1000 str. +-: 3.0 Shutoff solenoid	SV travel mm : 5.9 Tolerance mm +-: 0.4
Volt : 12	+ Check + tolerance mm +-: 0.6
SET GRADUATED STARTING DELIVERY	+ Shutoff solenoid + Volt : 12
CONTROL LEVER, IDLE STOP	+ Rated speed rpm : 1000
Rated speed rpm : 100 Del. quantity	+ Aneroid pressure - hPa : 1000
cm3/1000 strokes : 52.0 Tolerance	SV travel mm : 1.9
cm3/1000 str. + : 1.0 Shutoff solenoid	+ Tolerance mm +-: 0.4 + Check
Volt : 12	tolerance mm + : 0.6 Shutoff solenoid
LOAD-DEPENDENT START OF DELIVERY	+ Volt : 12
SETTING	+ Rated speed rpm : 600 + Aneroid pressure
DELIVERY DIFFERENCE	hPa : 1000
Rated speed rpm : 1250 Del. quantity 273/1000 strokes : 28 5	+ SV travel mm : 2.7 + Tolerance mm +-: 1.2
cm3/1000 strokes : -8.5 Tolerance cm3/1000 str. +- : 1.0	+ Check + tolerance mm + : 1.2
(III)/ (UUU Str. +; (.U	+ Shutoff solenoid + Volt : 12

KSB/AFB Volt : 12	+ Shutoff solenoid + Volt : 12
SUPPLY PUMP PRESSURE CHARACTERISTIC	Rated speed rpm : 2525
Rated speed rpm : 2150	+ Aneroid pressure + hPa : 1000
Aneroid pressure hPa : 1000	+ Del. quantity + cm3/1000 strokes : 10.0
Supply pomp pressure bar : 7.6	+ Check tolerance + cm3/1000s. +-: 6.0
Tolerance bar + : 0.3 Shutoff solenoid	+ Shutoff solenoid + Volt : 12
Volt : 12	+ Rated speed rpm : 2600
Rated speed rpm : 500 Aneroid pressure	+ Aneroid pressure + hPa : 1000
hPa : 1000 Supply pomp	+ Del. quantity + cm3/1000 strokes : 2.5
pressure bar : 3.5 Tolerance bar +: 0.3	+ Tolerance + cm3/1000 str. ++: 2.5
Shutoff solenoid Volt : 12	+ Check tolerance + cm3/1000s. ++: 2.5
OVERFLOW QUANTITY	+ Shutoff solenoid + Volt : 12
Rared speed rpm : 500	Rated speed rpm : 750
Overflow quantity ccm/10s : 63.8	+ Aneroid pressure + hPa : 300
Tolerance ccm/10s + : 16.6	LDA/
Check tolerance	+ HBA stroke mm : 7.3 + Del. quantity
ccm/10s +: 22.2 Shutoff solenoid	+ cm3/1000 strokes : 50.0 + Tolerance
Volt : 12	- cm3/1000 str. +-: 0.5 - Check tolerance
Rated speed rpm : 2150 Aneroid pressure	cm3/1000s. +: 2.3 Shutoff solenoid
hPa : 1000 Overflow quantity	Volt : 12
ccm/10s : 97.2 Tolerance	Rated speed rpm : 2150 Aneroid pressure
ccm/10s +: 27.7	+ hPa : 1000 + Del. quantity
Check tolerance ccm/10s + : 41.6	+ cm3/1000 strokes : 56.7 + Tolerance
Shutoff solenoid Volt : 12	+ cm3/1000 str. +-: 1.0 + Check tolerance
DELIVERY AND BREAKAWAY CHARACTERIST	+ cm3/1000s. $+$: 2.3
Rated speed rpm : 2450	Volt : 12
Aneroid pressure hPa : 1000	Rated speed rpm : 1000 Aneroid pressure
Del. quantity cm3/1000 strokes : 30.0	+ hPa : 1000
Tolerance	Del. quantity cm3/1000 strokes : 59.0
Check tolerance	+ Tolerance + cm3/1000 str. + : 1.5
cm3/1000s. + : 4.0	Ť

Abrah a timanan	1
Check tolerance cm3/1000s. +-: 2.3	†
Shutoff solenoid	I
Volt : 12	+ CHECKING LOAD-DEPENDENT
	+ START OF DELIVERY
Rated speed rpm : 500	+
Aneroid pressure	+ DELIVERY DIFFERENCE
hPa : 1000 Del. quantity	+ Rated speed rpm : 1250
cm3/1000 strokes : 57.2	Rated speed rpm : 1250 Del. quantity
Tolerance	+ cm3/1000 strokes : -11.0
cm3/1000 str. +-: 1.5	Tolerance
Check tolerance	+ cm3/1000 str. + : 2.5
cm3/1000s. +-: 2.3	+ Check tolerance
Shutoff solenoid Volt : 12	t cm3/1000s. +: 2.5 + Shutoff solenoid
VOCC . 12	+ Volt : 12
Rated speed rpm : 1250	+
Aneroid pressure	TIMING-DEVICE TRAVEL DIFFERENCE
hPa : 1000	+
Del. quantity cm3/1000 strokes : 58.7	+ Rated speed rpm : 1250 + Del. quantity
Tolerance	+ cm3/1000 strokes : -0.7
cm3/1000 str. +: 0.5	+ Tolerance
Check tolerance	+ cm3/1000 str. + : 0.1
cm3/1000s. + : 2.3	+ Check tolerance
Shutoff solenoid Volt : 12	+ cm3/1000s. +: 0.1 + Shutoff solenoid
VOCC . 12	+ Volt : 12
	1
	:
	DELIVERY DIFFERENCE
ELECTR. SHUTOFF	+
ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP	+ Rated speed rpm : 1250
CONTROL LEVER, IDLE STOP	Rated speed rpm : 1250 Del. quantity
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity	+ Rated speed rpm : 1250
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. +: 3.0
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 3.0
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance cm3/1000s. +-: 1.5 Spread	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 3.0
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance cm3/1000s. +-: 1.5	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance cm3/1000s. +-: 1.5 Spread cm3/1000 strokes : 5.0	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance cm3/1000s. +-: 1.5 Spread	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance cm3/1000s. +-: 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Tolerance mm + : 0.2
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance cm3/1000s. +-: 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. +: 3.0 Check tolerance cm3/1000s. +: 3.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Tolerance mm +: 0.2 Check tolerance mm +: 0.3 Shutoff solenoid
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. +: 3.0 Check tolerance cm3/1000s. +: 3.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Tolerance mm +: 0.2 Check tolerance mm +: 0.3
Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. +: 3.0 Check tolerance cm3/1000s. +: 3.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Tolerance mm +: 0.2 Check tolerance mm +: 0.3 Shutoff solenoid
Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Spread	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. +: 3.0 Check tolerance cm3/1000s. +: 3.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Tolerance mm +: 0.2 Check tolerance mm +: 0.3 Shutoff solenoid
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance cm3/1000s. +-: 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. +: 3.0 Check tolerance cm3/1000s. +: 3.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Tolerance mm +: 0.2 Check tolerance mm +: 0.3 Shutoff solenoid Volt : 12 START TRANSITION
Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000str. +-: 1.5 Check tolerance cm3/1000s. +-: 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000strokes : 5.0 Check tolerance cm3/1000s. +-: 1.5	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Tolerance mm + : 0.2 Check tolerance mm + : 0.3 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 300
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000str. +-: 1.5 Check tolerance cm3/1000s. +-: 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. +-: 1.5 Spread	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Tolerance mm + : 0.2 Check tolerance mm + : 0.3 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 300 Del. quantity
Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000str. +-: 1.5 Check tolerance cm3/1000s. +-: 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000strokes : 5.0 Check tolerance cm3/1000s. +-: 1.5	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Tolerance mm + : 0.2 Check tolerance mm + : 0.3 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 37.0
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000str. +-: 1.5 Check tolerance cm3/1000s. +-: 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. +-: 1.5 Spread	Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Tolerance mm + : 0.2 Check tolerance mm + : 0.3 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 300 Del. quantity

Shutoff solenoid 12 Volt Rated speed rpm 200 Del. quantity cm3/1000 strokes : 54.0 Tolerance cm3/1000 str. +-:10.0 Shutoff solenoid Volt 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ 7.3 HBA stroke mm : 3,7 Dimension K mm +: 0,1 Tolerance mm Dimension KF mm : 6,0 + : 0,2 Tolerance mm Dimension MS mm : 0,9 Tolerance mm + : 0.2POTENTIOMETER SET 1. measurement : 5.0 voltage Volt 1. measurement voltage Volt : 4,5 CONTROL LEVER POSITION SET Control lever position YA mm : 37,2..41,2 Control Lever : 63,3..71,7 position YB mm End of test-specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.01.97 Test oil : ISO 4113

Part no. : 0 460 494 394 Pump designation : VE4/9F225OR593-3

Customer—spec. information Customer : RENAULT Motor : G8T - 760 CA

Power KW : 81.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C + : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar +-: 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00
x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250
Aneroid pressure
hPa : 1000

Setting mm : 2.8
Tolerance mm + : 0.2
Shutoff solenoid
Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm	:	1250
Aneroid pressure		
hPa	:	1000
Supply pomp		
pressure bar	:	5.4
Tolerance bar +	:	0.3
Shutoff solenoid		
Volt	:	12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm	:	1250
Anaroid pressure		
hPa	:	1000
Del. quantity		
cm3/1000 strokes	:	58.7
Tolerance		
cm3/1000 str. +-	:	0.5
Spread		
cm3/1000 strokes	:	2.5
Check tolerance		
cm3/1000s.	:	3.0
Shutoff solenoid		
Volt	:	12
		. –

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm	:	500
Del. quantity		
cm3/1000 strokes	:	43.0
Tolerance		
cm3/1000 str. +-	:	0.5
Shutoff solenoid		
Volt	:	12
Check tolerance		
cm3/1000s.	:	3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 450
Del. quantity
cm3/1000 strokes : 7.0
Tolerance
cm3/1000 str. + : 2.0

Shutoff solenoid Volt : 12	Shutoff solenoid Volt : 12
IDLE DELIVERY	PRESSURE DIFFERENCE
Rated speed rpm : 350 Del. quantity	Rated speed rpm : 1250 Del. quantity
cm3/1000 strokes : 22.5 Tolerance	cm3/1000 strokes : -0.2 Tolerance
cm3/1000 str. +-: 2.0 Spread	- cm3/1000 str. +-: 0.1 - Shutoff solenoid
cm3/1000 strokes : 2.5 Shutoff solenoid	+ Volt : 12
Volt : 12	TIMING-DEVICE TRAVEL DIFFERENCE
HIGH IDLE SETTING	Rated speed rpm : 1250 Del. quantity
Rated speed rpm : 400 Del. quantity	- cm3/1000 strokes : -0.7 - Tolerance
cm3/1000 strokes : 29.5 Tolerance	- cm3/1000 str. +-: 0.1 - Shutoff solenoid
cm3/1000 str. +-: 2.0 Shutoff solenoid	+ Volt : 12
Volt : 12	INJECTION-PUMP TEST SPECIFICATIONS
FULL-LOAD SPEED REGULATION	+
Rated speed rpm : 2450	+ TIMING DEVICE CHARACTERISTIC
Pressure hPa : 1000 Del. quantity	Rated speed rpm : 2150
cm3/1000 strokes : 30.0 Tolerance	+ Aneroid pressure + hPz : 1000
cm3/1000 str. +-: 3.0	SV travel mm : 5.9
Shutoff solenoid	Tolerance mm +-: 0.4
Volt : 12	+ Check
	<pre>+ tolerance mm + : 0.6 + Shutoff solenoid</pre>
SET GRADUATED STARTING DELIVERY CONTROL LEVER, IDLE STOP	+ Volt : 12 +
Rated speed rpm : 100	+ Rated speed rpm : 1000 + Aneroid pressure
Del. quantity cm3/1000 strokes : 52.0	+ t,Pa : 1000 +
Tolerance	+ SV travel mm : 1.9
cm3/1000 str. + : 1.0 Shutoff solenoid	+ Tolerance mm ++: 0.4 + Check
Volt : 12	<pre>+ tolerance mm + : 0.6 + Shutoff solenoid</pre>
LOAD-DEPENDENT START OF DELIVERY	+ Volt : 12
SETTING	Rated speed rpm : 600 Aneroid pressure
DELIVERY DIFFERENCE	hPa : 1000
Rated speed rpm : 1250	+ SV travel mm : 2.7
Del. quantity cm3/1000 strokes : -8.5	Tolerance mm + : 1.2 Check
Tolerance cm3/1000 str. +-: 1.0	tolerance mm + : 1.2 Shutoff solenoid
	+ Volt : 12

KSB/AFB Volt : 12	+ Shutoff solenoid + Volt : 12
SUPPLY PUMP PRESSURE CHARACTERISTIC	Rated speed rpm : 2525
Rated speed rpm : 2150	Aneroid pressure : 1000
Aneroid pressure hPa : 1000	+ Del. quantity + cm3/1000 strokes : 10.0
Supply pomp pressure bar : 7.6	+ Check tolerance + cm3/1000s. ++: 6.0
Tolerance bar + : 0.3 Shutoff solenoid	+ Shutoff solenoid + Volt : 12
Volt : 12	+ Rated speed rpm : 2600
Rated speed rpm : 500 Aneroid pressure	+ Aneroid pressure + hPa : 1000
hPa : 1000 Supply pomp	Del. quantity + cm3/1000 strokes : 2.5
pressure bar : 3.5 Tolerance bar +-: 0.3	Tolerance + cm3/1000 str. + : 2.5
Shutoff solenoid Volt : 12	Check tolerance cm3/1000s. +: 2.5
OVERFLOW QUANTITY	Shutoff solenoid Volt : 12
Rated speed rpm : 500	Rated speed rpm : 750
Overflow quantity ccm/10s : 63.8	Aneroid pressure hPa : 300
Tolerance ccm/10s +-: 16.6	LDA/
Check tolerance	+ HBA stroke mm : 7.3 Del. quantity
ccm/10s + : 22.2 Shutoff solenoid	cm3/1000 strokes : 50.0
Volt : 12	cm3/1000 str. + : 0.5 Check tolerance
Rated speed rpm : 2150 Ameroid pressure	cm3/1000s. +: 2.3 Shutoff solenoid
hPa : 1000	Volt : 12
Overflow quantity ccm/10s : 97.2	Rated speed rpm : 2150
Tolerance ccm/10s + : 27.7	+ Aneroid pressure + hPa : 1000
Check tolerance	Del. quantity cm3/1000 strokes : 56.7
ccm/10s + : 41.6 Shutoff solenoid	+ Tolerance + cm3/1000 str. + : 1.0
Volt : 12	+ Check tolerance - cm3/1000s. + : 2.3
DELIVERY AND BREAKAWAY CHARACTERISTIC	+ Shutoff solenoid + Volt : 12
Rated speed rpm : 2450 Aneroid pressure	Rated speed rpm : 1000
hPa : 1000 Del. quantity	+ Aneroid pressure + hPa : 1000
cm3/1000 strokes : 30.0 Tolerance	+ Del. quantity + cm3/1000 strokes : 59.0
cm3/1000 str. +-: 3.0 Check tolerance	+ Tolerance + cm3/1000 str. +-: 1.5
cm3/1000s. +-: 4.0	+

Check tolerance cm3/1000s. +-: 2.3 Shutoff solenoid	<u> </u>
Volt : 12	CHECKING LOAD-DEPENDENT START OF DELIVERY
Rated speed rpm : 500 Aneroid pressure	+ DELIVERY DIFFERENCE
hPa : 1000 Del. quantity	+ Rated speed rpm : 1250
cm3/1000 strokes : 57.2 Tolerance	<pre>Del. quantity cm3/1000 strokes : -11.0</pre>
cm3/1000 str. + : 1.5 Check tolerance	+ Tolerance + cm3/1000 str. ++: 2.5
cm3/1000s. +-: 2.3 Shutoff solenoid	<pre>- Check tolerance - cm3/1000s. +-: 2.5</pre>
Volt : 12	+ Shutoff solenoid + Volt : 12
Rated speed rpm : 1250 Aneroid pressure	+ + TIMING-DEVICE TRAVEL DIFFERENCE
hPa : 1000 Del. quantity	+ + Rated speed rpm : 1250
cm3/1000 strokes : 58.7 Tolerance	+ Del. quantity + cm3/1000 strokes : -0.7
cm3/1000 str. + : 0.5 Check tolerance	+ Tolerance + cm3/1000 str. +-: 0.1
cm3/1000s. +-: 2.3 Shutoff solenoid	- Check tolerance - cm3/1000s. +-: 0.1
Volt : 12	+ Shutoff solenoid + Volt : 12
PLECTO CHUTOPP	DELIVERY DIFFERENCE
CONTROL LEVER, IDLE STOP	Rated speed rpm : 1250 Del. quantity
Rated speed rpm : 350 Del. quantity	cm3/1000 strokes : 5.0
cm3/1000 strokes : 1.5 Tolerance	- cm3/1000 str. +-: 3.0 - Check tolerance
cm3/1000 str. +-: 1.5 Check tolerance	- cm3/1000s. +-: 3.0 - Shutoff solenoid
cm3/1000s. +-: 1.5 Spread	+ Volt : 12
cm3/1000 strokes : 5.0	+ TIMING-DEVICE TRAVEL DIFFERENCE
FULL-LOAD STOP CONTROL LEVER	Rated speed rpm : 1250 Tolerance mm + : 0.2
Rated speed rpm : 350 Del. quantity	+ Check + tolerance mm +-: 0.3
cm3/1000 strokes : 1.5 Tolerance	+ Shutoff solenoid + Volt : 12
cm3/1000 str. +-: 1.5 Spread	‡
cm3/1000 strokes : 5.0 Check tolerance	+ START TRANSITION
cm3/1000s. +-: 1.5 Spread	- Rated speed rpm : 300 - Del. quantity
cm3/1000 strokes : 5.0	+ cm3/1000 strokes : 37.0 + Tolerance
	+ cm3/1000 str. +-: 10.0 +

Shutoff solenoid Volt 12 Rated speed rpm 200 Del, quantity cm3/1000 strokes : 54.0 Tolerance cm3/1000 str. +: 10.0 Shutoff solenoid Volt 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ HBA stroke mm 7.3 : 3,7 Dimension K mm -:0,1Tolerance mm Dimension KF mm : 6,0 +-: 0,2 Tolerance mm Dimension MS mm : 0,9 + : 0,2 Tolerance mm POTENTIOMETER SET 1. measurement : 5,0 voltage Volt 1. measurement voltage Volt : 4,5 CONTROL LEVER POSITION SET Control lever : 37,2..41,2 position YA mm Control lever position YB mm : 63,3..71,7 End of test-specification sheet

BOSCH ING. FOME IT	EST SPECIFICATIONS
Note remarks	
Refer to Service : adjustment instruction See microcard(s)	ctions.
Edition Test oil	: 23.01.97 : ISO 4113
Part no. Pump designation	: 0 460 494 425 : VE4/9F2250R593-4
Customer-spec. in Customer	: RENAULT
Motor Power KW	: G8T - 740/716 : 81.0
TEST BENCH REQUIRE	EMENTS
Calibrating-oil return	
temperature °C Tolerance °C +	: 45 : 1
Overflow restriction mm	: 0.55
Inlet press. bar Tolerance bar +-	: 0.35 : 0.05
Test nozzle holde assembly	: 1 688 901 022
Opening pressure bar Tolerance bar +-	: 130 : 3
Test lines	: 1 680 750 073
Outside diameter	: 6.00
x inside diameter x length mm	: 2.00 : 450

TIMING DEVICE TRAV	VEL
Rated speed rpm Aneroid pressure	: 1250
hPa	: 1000
Setting mm Tolerance mm +-	: 2.8 : 0.2
Shutoff solenoid Volt	: 12
SUPPLY PUMP PRESSU	
Rated speed rpm	: 1250
Aneroid pressure hPa	: 1000
Supply pomp pressure bar	: 5.4
Tolerance bar +- Shutoff solenoid	: 0.3
Volt	: 12
-	Y WITH BOOST PRESSURE
Rated speed rpm Aneroid pressure	: 1250
hPa Del. quantity	: 1000
cm3/1000 strokes Tolerance	: 58.7
cm3/1000 str. +- Spread	: 0.5
cm3/1000 strokes Check tolerance	: 2.5
cm3/1000s. Shutoff solenoid	: 3.0
Volt	: 12
	VITHOUT BOOST PRESSURE
Rated speed rpm Del. quantity	
cm3/1000 strokes Tolerance cm3/1000 str. +-	
Shutoff solenoid	
Check tolerance cm3/1000s.	
CIID/10003.	: 3.0
HOUSING-FIXED IDLE RESIDUAL QUANTITY	
Rated speed rpm Del. quantity	: 450
cm3/1000 strokes Tolerance	: 7.0
cm3/1000 str. +-	: 2.0

INJECTION PUMP SETTING VALUES

Shutoff solenoid Volt	; 12	+ Shutoff solenoid + Volt : 12
IDLE DELIVERY		PRESSURE DIFFERENCE
Rated speed rpm Del. quantity	: 350	Rated speed rpm : 1250 Del. quantity
cm3/1000 strokes Tolerance	: 22.5	cm3/1000 strokes : -0.2
cm3/1000 str. +-	: 2.0	cm3/1000 str. +: 0.1 Shutoff solenoid
cm3/1000 strokes Shutoff solenoid	: 2.5	Volt : 12
Volt	: 12	TIMING-DEVICE TRAVEL DIFFERENCE
HIGH IDLE SETTING		Rated speed rpm : 1250 Del. quantity
Rated speed rpm Del. quantity	: 400	cm3/1000 strokes : -0.7
cm3/1000 strokes Tolerance	: 29.5	cm3/1000 str. +: 0.1 Shutoff solenoid
cm3/1000 str. +- Shutoff solenoid	: 2.0	+ Volt : 12
Volt	: 12	INJECTION—PUMP TEST SPECIFICATIONS
FULL-LOAD SPEED RE	EGULATION	TIMING DEVICE CHARACTERISTIC
Rated speed rpm Pressure hPa	: 2450 : 1000	Rated speed rpm : 2150
Del. quantity cm3/1000 strokes		Amaza da Cara
Tolerance cm3/1000 str. +-		SV travel mm : 5.9
Shutoff solenoid Volt	: 12	+ Tolerance mm + : 0.4 + Check
VOCE	. 12	tolerance mm +: 0.6
SET GRADUATED STAR		+ Shutoff solenoid + Volt : 12
Rated speed rpm		Rated speed rpm : 1000 Aneroid pressure
Del. quantity cm3/1000 strokes		hPa : 1000
Tolerance cm3/1000 str. +-		SV travel mm : 1.9 Tolerance mm + : 0.4
Shutoff solenoid Volt	: 12	+ Check + tolerance man +: 0.6
		Shutoff solenoid Volt : 12
LOAD-DEPENDENT STA	ART OF DELIVERY	Rated speed rpm : 600
DELIVERY DIFFERENCE	DE .	Aneroid pressure hPa : 1000
Rated speed rpm		SV travel mm : 2.7
Del. quantity cm3/1000 strokes		Tolerance mm +-: 1.2
Tolerance cm3/1000 str. +-		tolerance mm +: 1.2 Shutoff solenoid
0.007 1000 311 1	. 1.0	Volt : 12

KSB/AFB Volt : 12	+ Shutoff solenoid + Volt : 12
SUPPLY PUMP PRESSURE CHARACTERISTIC	Rated speed rpm : 2525 Aneroid pressure
Rated speed rpm : 2150	+ hPa : 1000
Aneroid pressure hPa : 1000	+ Del. quantity + cm3/1000 strokes : 10.0
Supply pomp ressure bar : 7.6	+ Check tolerance + cm3/1000s. ++: 6.0
Tolerance bar +-: 0.3 Shutoff solenoid	Shutoff solenoid Volt : 12
Volt : 12	+
Rated speed rpm : 500	+ Rated speed rpm : 2600 + Aneroid pressure
Aneroid pressure hPa : 1000	+ hPa : 1000 + Del. quantity
Supply pomp pressure bar : 3.5	cm3/1000 strokes : 2.5
Tolerance bar +-: 0.3 Shutoff solenoid	+ cm3/1000 str. +-: 2.5
Volt : 12	Check tolerance cm3/1000s. +-: 2.5
OVERFLOW QUANTITY	+ Shutoff solenoid + Volt : 12
Rated speed rpm : 500	+ Rated speed rpm : 750
Overflow quantity ccm/10s : 63.8	Aneroid pressure hPa : 300
Tolerance	+
	+ LDA/ + HBA stroke mm : 7.3
Check tolerance ccm/10s + : 22.2	+ Del. quantity + cm3/1000 strokes : 50.0
Shutoff solenoid Volt : 12	+ Tolerance + cm3/1000 str. +-: 0.5
Rated speed rpm : 2150	Chack tolerance cm3/1000s. +-: 2.3
Aneroid pressure	+ Shutoff solenoid
hPa : 1000 Overflow quantity	+ Volt : 12
ccm/10s : 97.2 Tolerance	+ Rated speed rpm : 2150 + Aneroid pressure
ccm/10s +-: 27.7	hPa : 1000 - Del. quantity
Check tolerance ccm/10s +-: 41.6	- cm3/1000 strokes : 56.7 - Tolerance
Shutoff solenoid	+ cm3/1000 str. +-: 1.0
Volt : 12	Check tolerance cm3/1000s. +-: 2.3
DELIVERY AND BREAKAWAY CHARACTERISTIC	Shutoff solenoid Volt : 12
Rated speed rpm : 2450 Aneroid pressure	Rated speed rpm : 1000
hPa : 1000	Aneroid pressure hPa : 1000
Del. quantity cm3/1000 strokes : 30.0	Del. quantity
Tolerance cm3/1000 str. +-: 3.0	+ cm3/1000 strokes : 59.0 + Tolerance
Check tolerance cm3/1000s. +-: 4.0	+ cm3/1000 str. +-: 1.5

Check tolerance cm3/1000s. +-: 2.3	_
Shutoff solenoid	
Volt : 12 -	CHECKING LOAD-DEPENDENT START OF DELIVERY
Rated speed rpm : 500	
Aneroid pressure hPa : 1000 -	- DELIVERY DIFFERENCE
Del. quantity cm3/1000 strokes : 57.2 -	- Rated speed rpm : 1250 - Del. quantity
Tolerance - cm3/1000 str. + : 1.5 - Check tolerance -	- cm3/1000 strokes : -11.0 Tolerance
cm3/1000s. + : 2.3	- cm3/1000 str. +-: 2.5 Check tolerance
Shutoff solenoid Volt : 12	cm3/1000s. + : 2.5 Shutoff solenoid
Rated speed rpm : 1250	Volt : 12
Aneroid pressure hPa : 1000	TIMING-DEVICE TRAVEL DIFFERENCE
Del. quantity cm3/1000 strokes : 58.7 -	Rated speed rpm : 1250 Del. quantity
Tolerance - cm3/1000 str. +-: 0.5 -	- cm3/1000 strokes : -0.7 - Tolerance
Check tolerance - cm3/1000s. + : 2.3	- cm3/1000 str. +-: 0.1 - Check tolerance
Shutoff solenoid - 12 - 12	- cm3/1000S. +-: 0.1 - Shutoff solenoid
	Volt : 12
ELECTR. SHUTOFF	DELIVERY DIFFERENCE
CONTROL LEVER, IDLE STOP	- Rated speed rpm : 1250 - Del. quantity
Rated speed rpm : 350 - Del. quantity -	- cm3/1000 strokes : 5.0 Tolerance
cm3/1000 strokes : 1.5	cm3/1000 str. +-: 3.0 Check tolerance
cm3/1000 str. +-: 1.5 Check tolerance	- cm3/1000s. +-: 3.0 Shutoff solenoid
cm3/1000s. + : 1.5	- Volt : 12
cm3/1000 strokes : 5.0	TIMING-DEVICE TRAVEL DIFFERENCE
FULL-LOAD STOP CONTROL LEVER	- Rated speed rpm : 1250
Rated speed rpm : 350	- Tolerance mm +-: 0.2 - Check
Del. quantity cm3/1000 strokes : 1.5	tolerance mm + : 0.3 Shutoff solenoid
Tolerance cm3/1000 str. + : 1.5	- Volt : 12
Spread cm3/1000 strokes : 5.0 Check tolerance	START TRANSITION
cm3/1000s. + : 1.5	- Rated speed rpm : 300 - Del. quantity
cm3/1000 strokes : 5.0	- cm3/1000 strokes : 37.0 - Tolerance
1	- cm3/1000 str. + : 10.0

Shutoff solenoid Volt 12 Rated speed rpm 200 Del. quantity cm3/1000 strokes : 54.0 Tolerance cm3/1000 str. + :10.0 Shutoff solenoid 12 Volt ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ HBA stroke mm 7.3 : 3,7 Dimension K mm Tolerance min **←** : 0.1 Dimension KF mm : 6,0 Tolerance mm -: 0,2 Dimension MS mm : 0,9 Tolerance mm POTENTIOMETER SET 1. measurement voltage Volt : 5,0 1. measurement voltage Volt : 4,5 CONTROL LEVER POSITION SET Control lever position YA mm : 37,2..41,2 Control lever position YB mm : 63,3..71,7

End of test-specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 23.01.97 Edition Test oil : ISO 4113

: 0 460 494 426 Part no. Pump designation : VE4/9F2250R593-5

Customer-spec. information

Customer : RENAULT

Motor : G8T - 740/716 CA

Power KW 81.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance *C +-:

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar Tolerance bar + :

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Aneroid pressure

hPa 1000 :

2.8 Setting mm Tolerance mm +: 0.2

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Aneroid pressure

hPa : 1000

Supply pomp

5.4 pressure bar Tolerance bar +-: 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1250

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 58.7

Tolerance

cm3/1000 str. → : 0.5

Spread

cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s. 3.0

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 43.0

Tolerance

cm3/1000 str. +-:0.5

Shutoff solenoid

12 Volt

Check tolerance

cm3/1000s. 3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 450

Del. quantity

cm3/1000 strokes : 7.0

Tolerance

cm3/1000 str. + :2.0

Shutoff solenoid Volt : 12	+ Shutoff solenoid + Volt : 12
IDLE DELIVERY	PRESSURE DIFFERENCE
Rated speed rpm : 350 Del. quantity	Rated speed rpm : 1250 Del. quantity
cm3/1000 strokes : 22.5 Tolerance	- cm3/1000 strokes : -0.2 - Tolerance
cm3/1000 str. +-: 2.0 Spread	- cm3/1000 str. +-: 0.1 - Shutoff solenoid
cm3/1000 strokes : 2.5 Shutoff solenoid	+ Volt : 12
Volt : 12	TIMING-DEVICE TRAVEL DIFFERENCE
HIGH IDLE SETTING	Rated speed rpm : 1250 Del. quantity
Rated speed rpm : 400 Del. quantity	+ cm3/1000 strokes : -0.7 + Tolerance
cm3/1000 strokes : 29.5 Tolerance	+ cm3/1000 str. + : 0.1 + Shutoff solenoid
cm3/1000 str. + : 2.0 Shutoff solenoid	+ Volt : 12
Volt : 12	INJECTION-PUMP TEST SPECIFICATIONS
FULL-LOAD SPEED REGULATION Rated speed rpm : 2450	TIMING DEVICE CHARACTERISTIC
Rated speed rpm : 2450 Pressure hPa : 1000 Del. quantity	Rated speed rpm : 2150 Anaroid pressure
cm3/1000 strokes : 30.0 Tolerance	hPa : 1000
cm3/1000 str. + : 3.0 Shutoff solenoid	SV travel mm : 5.9 Tolerance mm +-: 0.4
Volt : 12	+ Check + tolerance mm +-: 0.6
SET GRADUATED STARTING DELIVERY	+ Shutoff solenoid + Volt : 12
CONTROL LEVER, IDLE STOP	Rated speed rpm : 1000
Rated speed rpm : 100 Del. quantity	Aneroid pressure + hPa : 1000
cm3/1000 strokes : 52.0 Tolerance	+ SV travel mm : 1.9
cm3/1000 str. +-: 1.0 Shutoff solenoid	Tolerance mm +-: 0.4 + Check
Volt : 12	tolerance mm +-: 0.6 Shutoff solenoid
LOAD-DEPENDENT START OF DELIVER	
SETTING	Rated speed rpm : 600 Aneroid pressure
DELIVERY DIFFERENCE	hPa : 1000
Rated speed rpm : 1250 Del. quantity	+ SV travel mm : 2.7 + Tolerance mm +-: 1.2
cm3/1000 strokes : -8.5 Tolerance cm3/1000 str. +- : 1.0	+ Check + tolerance mm +-: 1.2
cm3/1000 str. +-: 1.0	+ Shutoff solenoid + Volt : 12

KSB/AFB Volt : 12	+ Shutoff solenoid + Volt : 12
SUPPLY PUMP PRESSURE CHARACTERISTIC	Rated speed rpm : 2525
Rated speed rpm : 2150	+ Aneroid pressure + hPa : 1000
Aneroid pressure hPa : 1000	+ Del. quantity + cm3/1000 strokes : 10.0
Supply pomp pressure bar : 7.6	+ Check tolerance - cm3/1000s. +-: 6.0
Tolerance bar + : 0.3 Shutoff solenoid	+ Shutoff solenoid + Volt : 12
Volt : 12	Rated speed rpm : 2600
Rated speed rpm : 500 Aneroid pressure	+ Aneroid pressure + hPa : 1000
hPa : 1000 Supply pomp	Del. quantity + cm3/1000 strokes : 2.5
pressure bar : 3.5 Tolerance bar +-: 0.3	Tolerance + cm3/1000 str. + : 2.5
Shutoff solenoid Volt : 12	Check tolerance cm3/1000s. +: 2.5
	+ Shutoff solenoid
OVERFLOW QUANTITY	+ Volt : 12
Rated speed rpm : 500 Overflow quantity	+ Rated speed rpm : 750 + Aneroid pressure
ccm/10s : 63.8 Tolerance	+ hPa : 300
ccm/10s + : 16.6	+ LDA/ + HBA stroke mm : 7.3
Check tolerance ccm/10s + : 22.2	Del. quantity cm3/1000 strokes : 50.0
Shutoff solenoid Volt : 12	Tolerance cm3/1000 str. +: 0.5
Rated speed rpm : 2150	Check tolerance cm3/1000s. +: 2.3
Aneroid pressure	+ Shutoff solenoid
Overflow quantity	+ Volt : 12
ccm/10s : 97.2 Tolerance	Rated speed rpm : 2150 Aneroid pressure
ccm/10s + : 27.7	+ hPa : 1000 + Del. quantity
Check tolerance ccm/10s + : 41.6	+ cm3/1000 strokes : 56.7 + Tolerance
Shutoff solenoid Volt : 12	cm3/1000 str. +: 1.0 Check tolerance
DELIVERY AND BREAKAWAY CHARACTERISTIC	+ cm3/1000s. +: 2.3 + Shutoff solenoid
Rated speed rpm : 2450	Volt : 12
Aneroid pressure hPa : 1000	Rated speed rpm : 1000 Aneroid pressure
Del. quantity cm3/1000 strokes : 30.0	+ hPa : 1000
Tolerance	Del. quantity cm3/1000 strokes : 59.0
cm3/1000 str. +-: 3.0 Check tolerance	+ Tolerance + cm3/1000 str. +-: 1.5
cm3/1000s. +-: 4.0	+

Check tolerance cm3/1000s. +-: 2.	3 ‡	
Shutoff solenoid Volt : 1	2 CHECKING START OF	LOAD-DEPENDENT DELIVERY
Rated speed rpm : 500 Aneroid pressure	+ DELIVERY	DIFFERENCE
hPa : 100 Del. quantity	Rated spe	eed rpm : 1250
cm3/1000 strokes : 57. Tolerance	+ cm3/1000	strokes: -11.0
cm3/1000 str. + : 1. Check tolerance cm3/1000S. + : 2.	+ cm3/1000	str. +-: 2.5
Shutoff solenoid	cm3/1000s 2 + Shutoff s	5. + : 2.5
Rated speed rpm : 1250	Volt	: 12
Ameroid pressure hPa : 100		EVICE TRAVEL DIFFERENCE
Del. quantity cm3/1000 strokes : 58.	7 + Del. quar	
Tolerance cm3/1000 str. +: 0.	5 + Tolerance	
Check tolerance cm3/1000S. +: 2. Shutoff solenoid		
	2 + Shutoff s	
		DIFFERENCE
ELECTR. SHUTOFF		
CONTROL LEVER, IDLE STOP		eed rpm : 1250
CONTROL LEVER, IDLE STOP Reted speed rpm : 350	+ Del. quar - cm3/1000	ntity strckes : 5.0
CONTROL LEVER, IDLE STOP Reted speed rpm : 350 Del. quantity cm3/1000 strokes : 1.	+ Del. quar cm3/1000 + Tolerance 5 + cm3/1000	strokes: 5.0 str. +: 3.0
CONTROL LEVER, IDLE STOP Reted speed rpm : 350 Del. quantity cm3/1000 strokes : 1. Tolerance cm3/1000 str. + : 1. Check tolerance	Del. quar cm3/1000 Tolerance 5 + cm3/1000 Check tol 5 + cm3/1000s Shutoff s	strckes : 5.0 str. + : 3.0 .erance 5. + : 3.0
CONTROL LEVER, IDLE STOP Reted speed rpm : 350 Del. quantity cm3/1000 strokes : 1. Tolerance cm3/1000 str. + : 1. Check tolerance cm3/1000s. + : 1. Spread	Del. quar cm3/1000 Tolerance cm3/1000 Check tol cm3/1000s Shutoff s	strokes: 5.0 str. +: 3.0 erance 5. +: 3.0 solenoid: 12
CONTROL LEVER, IDLE STOP Reted speed rpm : 350 Del. quantity cm3/1000 strokes : 1. Tolerance cm3/1000 str. + : 1. Check tolerance cm3/1000s. + : 1. Spread cm3/1000 strokes : 5.8	Del. quar cm3/1000 Tolerance cm3/1000 Check tol cm3/1000s Shutoff s Volt	strokes: 5.0 str. +: 3.0 erance 5. +: 3.0 solenoid : 12 EVICE TRAVEL DIFFERENCE
CONTROL LEVER, IDLE STOP Reted speed rpm : 350 Del. quantity cm3/1000 strokes : 1. Tolerance cm3/1000 str. + : 1. Check tolerance cm3/1000s. + : 1. Spread cm3/1000 strokes : 5.6 FULL-LOAD STOP CONTROL LEVE	Del. quar cm3/1000 Tolerance cm3/1000 Check tol cm3/1000s Shutoff s Volt R Rated spe	strokes: 5.0 str. +: 3.0 erance 5. +: 3.0 solenoid: 12
CONTROL LEVER, IDLE STOP Reted speed rpm : 350 Del. quantity cm3/1000 strokes : 1. Tolerance cm3/1000 str. + : 1. Check tolerance cm3/1000s. + : 1. Spread cm3/1000 strokes : 5.6 FULL-LOAD STOP CONTROL LEVE Rated speed rpm : 350 Del. quantity	Del. quar	strckes: 5.0 str. +: 3.0 cerance 3.0 solenoid 12 EVICE TRAVEL DIFFERENCE end rpm : 1250 enmm +-: 0.2
CONTROL LEVER, IDLE STOP Reted speed rpm : 350 Del. quantity cm3/1000 strokes : 1. Tolerance cm3/1000 str. + : 1. Check tolerance cm3/1000s. + : 1. Spread cm3/1000 strokes : 5.6 FULL-LOAD STOP CONTROL LEVE Rated speed rpm : 350 Del. quantity	Del. quar	strckes: 5.0 str. +: 3.0 cerance 3.0 solenoid 12 EVICE TRAVEL DIFFERENCE end rpm : 1250 enmm +-: 0.2
CONTROL LEVER, IDLE STOP Reted speed rpm : 350 Del. quantity cm3/1000 strokes : 1. Tolerance cm3/1000 str. + : 1. Check tolerance cm3/1000s. + : 1. Spread cm3/1000 strokes : 5. FULL-LOAD STOP CONTROL LEVE Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1. Tolerance cm3/1000 strokes : 1. Spread cm3/1000 strokes : 5.	Del. quar cm3/1000 Tolerance cm3/1000 Check tole cm3/1000s Shutoff s Volt TIMING-DE R Rated specific check tolerance Check tolerance Shutoff s Volt Shutoff s Volt	strity strckes: 5.0 str. +: 3.0 erance 3. +-: 3.0 solenoid: 12 EVICE TRAVEL DIFFERENCE end rpm: 1250 enmm +-: 0.2 enmm +-: 0.3 solenoid: 12
CONTROL LEVER, IDLE STOP Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1. Tolerance cm3/1000 str. + : 1. Check tolerance cm3/1000s. + : 1. Spread cm3/1000 strokes : 5. FULL-LOAD STOP CONTROL LEVE Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1. Tolerance cm3/1000 strokes : 1. Spread cm3/1000 strokes : 5. Check tolerance cm3/1000s. + : 1.	Del. quar cm3/1000 Tolerance cm3/1000 Check tolem3/1000s Shutoff s Volt TIMING-DE R Rated spe Tolerance Check tolerance Shutoff s Volt Tolerance Check Tolerance Tolerance C	strckes: 5.0 str. +: 3.0 serance 3. +: 3.0 solenoid 12 EVICE TRAVEL DIFFERENCE sed rpm: 1250 mm +: 0.2 mm +: 0.3 solenoid 12 INSITION sed rpm: 300
CONTROL LEVER, IDLE STOP Reted speed rpm : 350 Del. quantity cm3/1000 strokes : 1. Tolerance cm3/1000 str. + : 1. Check tolerance cm3/1000s. + : 1. Spread cm3/1000 strokes : 5. FULL-LOAD STOP CONTROL LEVE Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 1. Tolerance cm3/1000 strokes : 1. Spread cm3/1000 strokes : 5. Check tolerance	Del. quar cm3/1000 Tolerance cm3/1000 Check tol cm3/1000s Shutoff s Volt TIMING-DE R Rated spe Tolerance Check tolerance Shutoff s Volt START TRA Rated spe Del. quar	strity strokes: 5.0 str. +: 3.0 cerance 3.0 solenoid: 12 EVICE TRAVEL DIFFERENCE end rpm: 1250 enmm +-: 0.2 enmm +-: 0.3 solenoid: 12 ENSITION end rpm: 300 stity strokes: 37.0

Shutoff solenoid Volt 12 200 Rated speed rpm Del. quantity cm3/1000 strokes : 54.0 Tolerance cm3/1000 str. + :10.0 Shutoff solenoid Valt 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ HBA stroke mm 7.3 : 3,7 Dimension K mm Tolerance mm + : 0,1 Dimension KF mm : 6,0 : 0,2 Tolerance mm : 0,9 Dimension MS mm Tolerance mm POTENTIOMETER SET 1. measurement : 5,0 voltage Volt 1. measurement : 4,5 voltage Volt CONTROL LEVER POSITION SET Control lever : 37,2..41,2 position YA mm Control lever position YB mm : 63,3..71,7 End of test-specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.02.97 Test oil : ISO 4113

Part no. : 0 460 426 141 Pump designation : VE6/12F125OR372

Customer—spec. information Customer : CDC

Motor : 68T-5.9 IND.

TEST BENCH REQUIREMENTS

Calibrating-oil return

temperature °C : 45
Tolerance °C +-: 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 027

Opening pressure

bar : 250 Tolerance bar + : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00
x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,3

Tolerance mm + : 0.02(0.06)

Outlet : D

Prestroke

(as of UT) mm : 0.3Tolerance mm + : 0.02

Check

tolerance mm + : 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 750

Setting mm : 3.6
Tolerance mm + : 0.2
Shutoff solenoid
Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 750

Supply pomp

pressure bar : 3.8
Tolerance bar + : 0.3
Shutoff solenoid

Volt :

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

12

Rated speed rpm : 1100

Del. quantity

cm3/1000 strokes : 75.5

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 4.0

Shutoff solenoid

Volt : 12

IDLE SETTING

Rated speed rpm : 360

Del. quantity

cm3/1000 strokes : 11.0

Tolerance

cm3/1000 str. + : 3.0

Shutoff solenoid

Volt : 12

Spread

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. : 7.0

FULL-LOAD SPEED REGULATION	Shutoff solenoid Volt : 12
Rated speed rpm : 1300 Del. quantity	OVERFLOW QUANTITY
cm3/1000 strokes : 59.5	Rated speed rpm : 1250 Overflow quantity
cm3/1000 str. + : 3.0 Shutoff solenoid	ccm/10s : 69.4 Tolerance
Volt : 12	ccm/10s + : 27.7
STARTING FUEL DELIVERY	Check tolerance ccm/10s +-: 41.6
Rated speed rpm : 100 Del. quantity	Shutoff solenoid Volt : 12
cm3/1000 strokes : 90.0	Rated speed rpm : 500
cm3/1000 str. + : 30.0 Shutoff solenoid	Overflow quantity ccm/10s : 50.0
Volt : 12	Tolerance ccm/10s +-: 22.2
‡	Check tolerance
	ccm/10s +-: 22.2 Shutoff solenoid
INJECTION—PUMP TEST SPECIFICATIONS	Volt : 12
TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
Ruted speed rpm : 1100	Rated speed rpm : 1300 Del. quantity
SV travel mm : 5.9 Tolerance mm + : 0.4	cm3/1000 strokes : 59.5 Tolerance
Check tolerance mm +: 0.7	cm3/1000 str. +-: 3.0 Check tolerance
Shutoff solenoid + 12 + 12	cm3/1000S. + : 6.0 Shutoff solenoid
Rated speed rpm : 500 +	Volt : 12
SV travel mm : 1.7	Rated speed rpm : 1350 Dal. quantity
Tolerance mm + : 0.4 + Check	cm3/1000 strokes : 30.0 Check tolerance
tolerance mm + : 0.7 Shutoff solenoid	cm3/1000s. +-: 20.0 Shutoff solenoid
Volt : 12	Volt : 12
SUPPLY PUMP PRESSURE CHARACTERISTIC	Rated speed rpm : 1400 Del. quantity
Rated speed rpm : 1100 + Supply pomp	cm3/1000 strokes : 1.5 Tolerance
pressure bar : 5.1 Tolerance bar +: 0.3	cm3/1000 str. +-: 1.5 Check_tolerance
Shutoff solenoid	cm3/1000s. +: 1.5 Shutoff solenoid
Rated speed rpm : 500	Volt : 12
Supply pomp ; 2.7	Rated speed rpm : 1250 Del. quantity
Tolerance bar +-: 0.3	cm3/1000 strokes : 73.0

Tolerance		
		+ Check tolerance
cm3/1000 str. +-:	1. 5	+ cm3/1000s. $+-$: 1.5
Check tolerance		
	7.0	FULL LOAD OTOD CONTROL LEUR
cm3/1000s. +-:	3.0	+ FULL-LOAD STOP CONTROL LEVER
Shutoff solenoid		+
Volt :	12	Rated speed rpm : 360
,		+ Del. quantity
Dated appeal non .	000	
Rated speed rpm :	900	+ cm3/1000 strokes : 1.5
Del. quantity		† Tolerance
cm3/1000 strokes :	79.5	+ cm3/1000 str. +-: 1.5
Tolerance		+ Check tolerance
cm3/1000 str. +:	2.0	+ cm3/1000s. + : 1.5
	2.0	T (1115) 10000; TT: 1.5
Check tolerance		†
cm3/1000s. +-:	4.0	+ IDLE DELIVERY
Shutoff solenoid		
Volt :	12	+ Rated speed rpm : 450
Dated annual con	500	+ Del. quantity
Rated speed rpm :	500	+ cm3/1000 strokes : 2.0
Del. quantity		+ Tolerance
cm3/1000 strokes :	68.0	+ cm3/1000 str. +-: 2.0
Toterance		+ Check tolerance
cm3/1000 str. +:	4.0	
	4.0	
Check tolerance		+ Shutoff solenoid
cm3/1000s. +-:	6.0	+ Voit : 12
Shutoff solenoid		
Volt :	12	\perp
		\perp
Dated speed spe	1100	Ţ
Rated speed rpm :	1 100	Ţ
Del. quantity		†
cm3/1000 strokes :	75.5	+
Tolerance		+ START TRANSITION
		T STAKE EVALUATION
cm3/1000 str. + :	0.5	T START TRANSPITON
cm3/1000 str. +:	0.5	+
Check tolerance		+ Rated speed rpm : 240
Check tolerance cm3/1000s. +-:	0.5 3.0	Rated speed rpm : 240 Del. quantity
Check tolerance cm3/1000s. + : Shutoff solenoid	3.0	Rated speed rpm : 240 Del. quantity cm3/1000 scrokes : 50.0
Check tolerance cm3/1000s. +-:		Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance
Check tolerance cm3/1000s. + : Shutoff solenoid	3.0	Rated speed rpm : 240 Del. quantity cm3/1000 scrokes : 50.0 Tolerance
Check tolerance cm3/1000s. + : Shutoff solenoid	3.0	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +- : 20.0
Check tolerance cm3/1000s. +: Shutoff solenoid Volt :	3.0	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +- : 20.0 Shutoff solenoid
Check tolerance cm3/1000s. + : Shutoff solenoid	3.0	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +- : 20.0
Check tolerance cm3/1000s. +: Shutoff solenoid Volt :	3.0 12	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +- : 20.0 Shutoff solenoid
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm :	3.0 12	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +- : 20.0 Shutoff solenoid Volt : 12
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity	3.0 12 1250	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm :	3.0 12 1250	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes :	3.0 12 1250	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +- : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance	3.0 12 1250 1.5	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +- : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +:	3.0 12 1250	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +- : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance	3.0 12 1250 1.5 1.5	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. + : 30.0
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +:	3.0 12 1250 1.5	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. + : 30.0 Shutoff solenoid
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance	3.0 12 1250 1.5 1.5	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. + : 30.0
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +:	3.0 12 1250 1.5 1.5	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. + : 30.0 Shutoff solenoid
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid	3.0 12 1250 1.5 1.5	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. + : 30.0 Shutoff solenoid
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid	3.0 12 1250 1.5 1.5	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. + : 30.0 Shutoff solenoid Volt : 12
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt :	3.0 12 1250 1.5 1.5	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. + : 30.0 Shutoff solenoid
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt : ELECTR. SHUTOFF	3.0 12 1250 1.5 1.5 1.5	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. + : 30.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt :	3.0 12 1250 1.5 1.5 1.5	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. + : 30.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension KF mm : 5,2
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt : ELECTR. SHUTOFF CONTROL LEVER, IDLE	3.0 12 1250 1.5 1.5 1.5	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. + : 30.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension KF mm : 5,2 Tolerance mm + : 0,2
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt : ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm :	3.0 12 1250 1.5 1.5 1.5	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +- : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. +- : 30.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension KF mm : 5,2 Tolerance mm +- : 0,2 Dimension MS mm : 0,8
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt : ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm :	3.0 12 1250 1.5 1.5 1.5	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +- : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. +- : 30.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension KF mm : 5,2 Tolerance mm +- : 0,2 Dimension MS mm : 0,8
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt : ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm : Del. quantity	3.0 12 1250 1.5 1.5 1.5 12 STOP 360	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. +-: 30.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension KF mm : 5,2 Tolerance mm +-: 0,2 Dimension MS mm : 0,8 Tolerance mm +-: 0,2
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt : ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm : Del. quantity cm3/1000 strokes :	3.0 12 1250 1.5 1.5 1.5 12 STOP 360	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +- : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. +- : 30.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension KF mm : 5,2 Tolerance mm +- : 0,2 Dimension MS mm : 0,8
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt : ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance	3.0 12 1250 1.5 1.5 1.5 12 STOP 360 1.5	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. +-: 30.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension KF mm : 5,2 Tolerance mm +-: 0,2 Dimension MS mm : 0,8 Tolerance mm +-: 0,2
Check tolerance cm3/1000s. +: Shutoff solenoid Volt : MECHANICAL SHUTOFF Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt : ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm : Del. quantity cm3/1000 strokes :	3.0 12 1250 1.5 1.5 1.5 12 STOP 360	Rated speed rpm : 240 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. +-: 30.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension KF mm : 5,2 Tolerance mm +-: 0,2 Dimension MS mm : 0,8 Tolerance mm +-: 0,2

CONTROL LEVER POSITION SET

Control lever

: 34,8..38,8 position YA mm

Control lever position YB mm : 41,0..46,6

End of test-specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.02.97 Test oil : ISO 4113

: 0 460 426 142 Part no. Pump designation : VE6/12F1250R373

Customer-spec. information Customer : CUMMINS

: 6 BTA-590IND. Motor

TEST BENCH REQUIREMENTS

Calibrating-oil return

temperature °C Tolerance *C + :

Cverflow

restriction mm 0.55

0.35 Inlet press. bar : Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 bar Tolerance bar +-:

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x Length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,85

Tolerance mm +-: 0.02(0.06)

Outlet. : D

Prestroke

(as of UT) mm : 0,3 Tolerance mm +-: 0,02

Check

tolerance mm +-: 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 750

Aneroid pressure

hPa 1000

Setting mm 1.5 Tolerance mm 0.2

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 750

Aneroid pressure

hPa 1000 Supply pomp

pressure bar

3.5 Tolerance bar + : 0.3

Shutoff solenoid

Valt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 750

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 87.0

Tolerance

cm3/1000 str. +-:0.2

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 4.5

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm

Del. quantity

500

cm3/1000 strokes :

68.5

Tolerance

cm3/1000 str. + :

0.5

Shutoff solenoid Volt : 12 Check tolerance cm3/1000S. : 4.5 IDLE SETTING Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 11.0 Tolerance cm3/1000 str. +- : 3.0 Shutoff solenoid Volt : 12 Spread	Shutoff solenoid Volt : 12 Rated speed rpm : 600 Aneroid pressure hPa : 1000 SV travel mm : 0.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC
cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 7.0	Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 4.8
FULL-LOAD SPEED REGULATION	Tolerance bar +-: 0.3 Shutoff solenoid Volt : 12
Rated speed rpm : 1300 Pressure hPa : 1000 Del. quantity cm3/1000 strokes : 70.5 Tolerance cm3/1000 str. + : 3.0 Shutoff solenoid Volt : 12 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 100.0	Rated speed rpm : 500 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 2.5 Tolerance bar + : 0.3 Shutoff solenoid Volt : 12 OVERFLOW QUANTITY Rated speed rpm : 1250 Aneroid pressure
Tolerance cm3/1000 str. +: 30.0 Shutoff solenoid Volt : 12	hPa : 1000 Overflow quantity ccm/10s : 66.6 Tolerance ccm/10s +- : 27.7 Check tolerance ccm/10s +- : 41.6
INJECTION-PUMP TEST SPECIFICATIONS	Shutoff solenoid Volt : 12
TIMING DEVICE CHARACTERISTIC	Rated speed rpm : 500
Rated speed rpm : 1050 Aneroid pressure hPa : 1000	Overflow quantity ccm/10s : 50.0 Tolerance ccm/10s +- : 16.6
SV travel mm : 2.6 Tolerance mm +: 0.4 Check tolerance mm +: 0.7	Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 12

DELIVERY AND BREAKAW	AY CHARACTERISTIC	Ī	Rated speed rpm : Aneroid pressure	1050
Rated speed rpm : Aneroid pressure	1300	Ì	hPa : Del. quantity	1000
hPa : Del. quantity	1000	Ī	cm3/1000 strokes : Tolerance	84.0
cm3/1000 strokes : Tolerance	70.5	$\frac{1}{2}$	cm3/1000 str. +-: Check tolerance	1.5
cm3/1000 str. +-: Check tolerance	3.0	Ī	cm3/1000s. +-: Shutoff solenoid	3.5
cm3/1000s. +: Shutoff solenoid	6.0	$\frac{1}{1}$	Volt :	12
Volt :	12	$\frac{1}{1}$	Rated speed rpm : Aneroid pressure	500
Rated speed rpm : Aneroid pressure	1330	$\frac{1}{1}$	hPa : Del. quantity	1000
hPa : Del. quantity	1000	Ŧ	cm3/1000 strokes : Tolerance	87.0
cm3/1000 strokes : Check tolerance	40.0	ł	cm3/1000 str. + : Shutoff solenoid	4.0
cm3/1000s. + : Shutoff solenoid	20.0	1	Volt :	12
Volt :	12	+	Rated speed rpm : Aneroid pressure	750
Rated speed rpm : Aneroid pressure	1400	1	hPa : Del. quantity	1000
hPa : Del. quantity	1000	+	cm3/1000 strokes : Tolerance	87.0
cm3/1000 strokes : Tolerance	1.5	1	cm3/1000 str. + : Check tolerance	0.2
cm3/1000 str. +-: Check tolerance	1.5	+	cm3/1000s. +-: Shutoff solenoid	3.0
cm3/1000s. +-: Shutoff solenoid	1.5	+	Volt :	12
Volt :	12	+	MECHANICAL SHUTOFF	
Rated speed rpm : Aneroid pressure	700	‡	Rated speed rpm :	1250
hPa : Del. quantity	4 0 0	+	Aneroid pressure hPa :	1000
cm3/1000 strokes : Tolerance	79.0	‡	Del. quantity cm3/1000 strokes :	1.5
cm3/1000 str. +-: Check tolerance	0.5	+	Tolerance cm3/1000 str. +-:	1.5
cm3/1000s. +-: Shutoff solenoid	4.0	‡	Spread cm3/1000 strokes :	5.0
Volt :	12	‡	Check tolerance cm3/1000s. +:	1.5
Rated speed rpm : Aneroid pressure	1250	‡	Shutoff solenoid Volt :	12
hPa : Del. quantity	1000	‡		
cm3/1000 strokes : Tolerance	80.5	‡	ELECTR. SHUTOFF CONTROL LEVER, IDLE	STOP
cm3/1000 str. + : Check tolerance	1.5	‡	Rated speed rpm :	375
cm3/1000s. +-: Shutoff solenoid	3.0	‡	Del. quantity cm3/1000 strokes :	1.5
Volt :	12	+		

Tolerance cm3/1000 str. +-:1.5 Check tolerance cm3/1000s. 1.5 FULL-LOAD STOP CONTROL LEVER 375 Rated speed rpm Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-:1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s.1.5 IDLE DELIVERY Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 2.0 Tolerance cm3/1000 str. +-: 2.0 Check tolerance cm3/1000s. 2.0 Shutoff solenoid Volt 12 START TRANSITION 450 Rated speed rpm : Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 str. +-:20.0 Shutoff solenoid 12 Volt 250 Rated speed rpm Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 str. +-:30.0 Shutoff solenoid 12 Volt ASSEMBLY AND ADJUSTMENT DIMENSIONS

: 5,2

: 1,2 +- : 0,2

+ : 0,2

SVS dimension mm : 2,3

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 42,8..48,2

End of test-specification sheet

Dimension KF mm Tolerance mm +

Tolerance mm

Dimension MS mm

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 06.02.97 Edition : ISO 4113 Test oil

: 0 460 426 151 Part no. Pump designation: VE6/12F1100R373-5

Customer-spec. information : CDC Customer

: 6 BT 5.9 IND. Motor

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance *C +-:

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 bar Tolerance bar + :

: 1 680 750 000 Test lines

Outside diameter : 6.00

2.00 x inside diameter : 840 x length mm

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,85

Tolerance mm +-:0.02(0.06)

Outlet. : D

Prestroke

(as of UT) mm : 0,3 Tolerance mm +-: 0,02

Check

+-: 0,04 tolerance mm

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 750

Aneroid pressure

hPa 1000

Setting mm 1.5 Tolerance mm 0.2 Shutoff solenoid

Volt

SUPPLY PUMP PRESSURE

750 Rated speed rpm

Aneroid pressure

1000 hPa

Supply pomp

pressure bar 3.5 Tolerance bar +-: 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

12

750 Rated speed rpm

Aneroid pressure

1000 hPa

Del. quantity cm3/1000 strokes : 86.0

Tolerance

cm3/1000 str. +-: 0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000S. 4.5

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes :

66.5

Tolerance

cm3/1000 str. +-:

0.5

Spread		+ Tolerance mm +-: 0.4
cm3/1000 strokes Shutoff solenoid	: 9.0	+ Check + tolerance mm +-: 0.7
Volt	: 12	- Shutoff solenoid
Check tolerance cm3/1000s.	; 9.0	† Volt : 12
Check tolerance		Rated speed rpm : 600
cm3/1000s.	: 4.5	+ Aneroid pressure + hPa : 1000
IDLE SETTING		+
Rated speed rpm	: 375	+ SV travel mm : 0.7 + Tolerance mm +-: 0.4
Del. quantity cm3/1000 strokes	: 11.0	+ Check + tolerance mm + : 0.7
Tolerance cm3/1000 str. +-	; 2.0	Shutoff solenoid Volt : 12
Shutoff solenoid		+
Volt Spread	: 12	+ SUPPLY PUMP PRESSURE CHARACTERISTIC
cm3/1000 strokes	: 5.5	Rated speed rpm : 1100
Check tolerance cm3/1000s.	: 7.0	Aneroid pressure hPa : 1000
		+ Supply pomp + pressure bar : 5.0
		Tolerance bar +-: 0.3
		+ Shutoff solenoid
FULL-LOAD SPEED R	EGULATION	+ Volt : 12
Rated speed rpm Pressure hPa	: 1150 : 1000	Rated speed rpm : 600
Del. quantity	: 1000	+ Aneroid pressure + hPa : 1000
cm3/1000 strokes	: 67.0	+ Supply pomp
Tolerance cm3/1000 str. +-	: 3.0	+ pressure bar : 2.9 + Tolerance bar + : 0.3
Shutoff solenoid	. 5.0	+ Shutoff solenoid
Volt	: 12	+ Volt : 12
STARTING FUEL DEL	IVERY	OVERFLOW QUANTITY
Rated speed rpm	: 100	Rated speed rpm : 500
Del. quantity cm3/1000 strokes	: 110.0	+ Overflow quantity + ccm/10s : 50.0
Tolerance cm3/1000 str. +-	: 30.0	+ Tolerance + ccm/10s + : 16.6
Shutoff solenoid		+
Volt	: 12	+ Check tolerance + ccm/10s +: 20.8
		+ Shutoff solenoid + Volt : 12
		+
INJECTION-PUMP TE	ST SPECIFICATIONS	Rated speed rpm : 1100 Aneroid pressure
TIMING DEVICE CHAP	RACTFRISTIC	hPa : 1000 + Overflow quantity
		+ ccm/10s : 69.4
Rated speed rpm Aneroid pressure	: 1100	+ Tolerance + ccm/10s +-: 27.7
hPa	: 1000	+
SV travel mm	: 2.9	+ Check tolerance + ccm/10s +: 41.6

Shutoff solenoid Volt :	12	†	Shutoff solenoid Volt	:	12	
DELIVERY AND BREAKAW	AY CHARACTERISTIC	Ī	Rated speed rpm Aneroid pressure	:	900	
Rated speed rpm : Aneroid pressure	1150	<u></u>	hPa Del. quantity	:	1000	
hPa : Del. quantity	1600	<u></u>	cm3/1000 strokes Tolerance	:	8 5.5	
cm3/1000 strokes : Tolerance	67.0	+	cm3/1000 str. +- Check tolerance	:	1.5	
cm3/1000 str. + : Check tolerance	3.0	‡	cm3/1000S. +- Shutoff solenoid	•	3.0	
cm3/1000s. +: Shutoff solenoid	6.0	+	Volt	:	12	
Volt :	12 1200	Ŧ	Rated speed rpm Aneroid pressure hPa	:	500	
Rated speed rpm : Aneroid pressure hPa :	1000	Ŧ	Del. quantity cm3/1000 strokes		1000 85.0	
Del. quantity cm3/1000 strokes :	25.0	-	Tolerance cm3/1000 str. +-		4.0	
Check tolerance cm3/1000s. +:	20.0	+	Shutoff solenoid Volt	:	12	
Shutoff solenoid Volt :	12	‡	Rated speed rpm	:	750	
Rated speed rpm :	1260	‡	Aneroid pressure	:	1000	
Aneroid pressure hPa : Del. quantity	1000	Ŧ	Del. quantity cm3/1000 strokes Tolerance	:	86.0	
cm3/1000 strokes : Tolerance	1.5	Ī	cm3/1000 str. +- Check tolerance	:	0.5	
cm3/1000 str. +-: Check tolerance	1.5	+	cm3/1000s Shutoff solenoid	:	3.0	
cm3/1000s. +: Shutoff solenoid	1.5	‡	Volt	:	12	
Volt :	12	‡	MECHANICAL SHUTOFF	:		
Rated speed rpm : Aneroid pressure hPa :	700 400	+	Rated speed rpm Aneroid pressure	:	1100	
Del. quantity cm3/1000 strokes :	78.5	Ī	hPa Del. quantity	:	1000	
Tolerance cm3/1000 str. +-:	0.5	+	cm3/1000 strokes Tolerance	:	1.5	
Check tolerance cm3/1000s. +:	4.5	‡	cm3/1000 str. +- Spread		1.5	
Shutoff solenoid Volt :	12	‡	cm3/1000 strokes Check tolerance		5.0	
Rated speed rpm :	1100	7	cm3/1000S. +- Shutoff solenoid	:	1.5	
Aneroid pressure hPa : Del. quantity	1000	Ī	Volt	•	12	
cm3/1000 strokes : Tolerance	82.0	‡	ELECTR. SHUTOFF CONTROL LEVER, IDL	E S.	ГОР	
cm3/1000 str. +-: Check tolerance	1.5	‡	Rated speed rpm		375	
cm3/1000s. +:	3.0	+				

Del. quantity cm3/1000 strokes	:	1.5	
Tolerance cm3/1000 str. +-	:	1.5	
Check tolerance cm3/1000s. +-	:	1.5	
FULL-LOAD STOP COM	NTROL	LEVER	
Rated speed rpm	:	375	
Del. quantity cm3/1000 strokes	:	1.5	
Tolerance cm3/1000 str. +-	:	1.5	
Spread cm3/1000 strokes	:	5.0	
Check tolerance cm3/1000s. +-	:	1.5	
IDLE DELIVERY			
Rated speed rpm	:	500	
	:	2.0	
Tolerance cm3/1000 str. +-	:	2.0	
Check tolerance cm3/1000s. +-	:	2.0	
Shutoff solenoid Volt	:	12	
67457 TRANSCETTA!			
START TRANSITION		//0	
Rated speed rpm Del. quantity	:	440	
cm3/1000 strokes Tolerance	:	65.0	
cm3/1000 str. +-	:	15.0	
Shutoff solenoid		12	
Shutoff solenoid Volt	:		
Volt Rated speed rpm	:	280	
Volt Rated speed rpm Del. quantity cm3/1000 strokes			
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	280	

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,2 Tolerance mm + : 0,2 Dimension MS mm : 1,2 Tolerance mm + : 0,2 SVS dimension mm : 2,0

CONTROL LEVER POSITION SET

Control Lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 42,0..47,7

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 11,02,97 : ISO 4113 Test oil

Part no. : 0 460 424 057 Pump designation: VE4/12F1250R374

Customer-spec. information

Customer : CUMMINS : 4 BTA 3.9 Motor

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature *C Tolerance *C +-:

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

assembly : 1 688 901 027

Opening pressure

250 bar Tolerance bar +:

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,55

Tolerance mm +-: 0.02(0.06)

Outlet : A

Prestroke

(as of UT) mm: 0,3 Tolerance mm +-: 0,02

Check

tolerance mm +-: 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 850

Aneroid pressure

1000 hPa

Setting nm 4.2 Tolerance mm 0.2

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 850

Aneroid pressure

hPa : 1000

Supply pomp

5.9 pressure bar Tolerance bar +-: 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 850

Aneroid pressure

1000

Del. quantity

cm3/1000 strokes : 88.5

Tolerance

cm3/1900 str. +-: 0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

4.5 cm3/1000s.

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

64.5

cm3/1000 strokes :

Tolerance

cm3/1000 str. +-: 0.5

Shutoff solenoid Volt : 12 Check tolerance cm3/1000s. : 4.5	Shutoff solenoid Volt : 12 Rated speed rpm : 500
IDLE SETTING	Aneroid pressure hPa : 1000
Rated speed rpm : 365 Del. quantity cm3/1000 strokes : 11.0	SV travel mm : 2.2 Tolerance mm +-: 0.4 Check
Tolerance cm3/1000 str. + : 3.0	tolerance mm + : 0.7 Shutoff solenoid
Shutoff solenoid Volt : 12	Volt : 12
Spread cm3/1000 strokes : 5.5	SUPPLY PUMP PRESSURE CHARACTERISTIC
Check tolerance cm3/1000s. : 7.0	Rated speed rpm : 1100 Aneroid pressure
	hPa : 1000 Supply pomp
‡	pressure bar : 7.0 Tolerance bar +-: 0.3
FULL-LOAD SPEED REGULATION	Shutoff solenoid Volt : 12
Rated speed rpm : 1310 + Pressure hPa : 1000 +	Rated speed rpm : 500
Del. quantity cm3/1000 strokes : 68.0	Aneroid pressure hPa : 1000
Tolerance cm3/1000 str. +-: 3.0	Supply pomp pressure bar : 4.3
Shutoff solenoid + 12 + 12	Tolerance bar +-: 0.3 Shutoff solenoid
STARTING FUEL DELIVERY	Volt : 12
Rated speed rpm : 100	Rated speed rpm : 500 Aneroid pressure
Del. quantity cm3/1000 strokes : 100.0	hPa : 1600 Supply pomp
Tolerance + : 30.0 +	pressure bar : 4.3 Tolerance bar + : 0.3
Shutoff solenoid Volt : 12	Shutoff solenoid Volt : 12
‡	OVERFLOW QUANTITY
	Rated speed rpm : 500 Overflow quantity
INJECTION-PUMP TEST SPECIFICATIONS	ccm/10s : 62.5 Tolerance
TIMING DEVICE CHARACTERISTIC	ccm/10s + : 16.6
Rated speed rpm : 1100 Aneroid pressure	Check tolerance ccm/10s +-: 20.8
hPa : 1000	Shutoff solenoid Volt : 12
SV travel mm : 5.3 Tolerance mm + : 0.4	Rated speed rpm : 1250
Check tolerance mm +-: 0.7	Aneroid pressure hPa : 1000
+	

Overflow quantity ccm/10s	: 80.5	‡	Aneroid pressure hPa	: 1	000
Tolerance ccm/10s +-:	: 27.7	+	Del. quantity cm3/1000 strokes	: 7	3. 5
Check tolerance ccm/10s +	: 41.6	‡	Tolerance cm3/1000 str. +-	•	1.5
Shutoff solenoid Volt	: 12	Ī	Check tolerance cm3/1000s. +- Shutoff solenoid	•	3.0
	AWAY CHARACTERISTIC	1	Volt	•	12
Rated speed rpm	: 1310	+	Rated speed rpm Aneroid pressure	: 110)
Aneroid pressure hPa	: 1000	‡	hPa Del. quantity	: 1	000
Del. quantity cm3/1000 strokes	: 68.0	‡	cm3/1000 strokes Tolerance	: 8	1.0
Tolerance cm3/1000 str. +-:	: 3.0	‡	cm3/1000 str. +- Check tolerance	•	2.0
Check tolerance cm3/1000s. +-:	: 6.0	‡	cm3/1000s. +- Shutoff solenoid	:	4.0
Shutoff solenoid Volt	: 12	‡	Volt	•	12
	: 1350	‡	Aneroid pressure	: 500	
Aneroid pressure hPa	: 1000	‡	hPa Del. quantity		000
Del. quantity cm3/1000 strokes	: 35.0	+	cm3/1000 strokes Tolerance		5.5
Check tolerance cm3/1000s. + : Shutoff solenoid	20.0	Ŧ	cm3/1000 str. +- Shutoff solenoid Volt	•	4.0 12
Volt	12	Ī		: 85	
Rated speed rpm : Aneroid pressure	: 1420	I	Aneroid pressure hPa		000
liPa :	: 1600	1	Del. quantity cm3/1000 strokes		3.5
cm3/1000 strokes : Tolerance	: 1.5	†	Tolerance cm3/1000 str. +-		0.5
cm3/1000 str. +- : Check tolerance	: 1.5	+	Check tolerance cm3/1000s. +-		3.0
cm3/1000s. + : Shutoff solenoid	1.5	‡	Shutoff solenoid Volt	•	12
Volt	: 12	‡			
Rated speed rpm : Aneroid pressure	: 700	‡	MECHANICAL SHUTOFF		_
hPa Del. quantity	350	‡	Aneroid pressure	: 140	
cm3/1000 strokes : Tolerance		‡	Del. quantity		000
cm3/1000 str. \leftarrow : Check tolerance cm3/1000s. \leftarrow :	_	Ŧ	cm3/1000 strokes Tolerance cm3/1000 str. +-		1.5 1.5
Shutoff solenoid Volt	: 12	Ī	Spread cm3/1000 strokes		5.0
Rated speed rpm :	4050	I	Check tolerance cm3/1000s. +-		1.5
Hatta opeca i piii - i		+		•	

Shutoff solenoid Volt	:	12 ‡	Shutoff solenoid Volt : 12
ELECTR. SHUTOFF CONTROL LEVER, ID	LE STOP	+	ASSEMBLY AND ADJUSTMENT DIMENSIONS
Rated speed rpm Del. quantity	: 365	+	Dimension KF mm : 5,2 Tolerance mm +-: 0,2 Dimension MS mm : 1,2
cm3/1000 strokes Tolerance	: 1	.5	Tolerance mm +-: 0,2 SVS dimension mm : 2,3
cm3/1000 str. +- Check tolerance	: 1	.5	
cm3/1000s. +-	: 1	.5	CONTROL LEVER POSITION
FULL-LOAD STOP CO	VTROL LEV	ER 🗼	SET
Rated speed rpm Del. quantity	: 365	Í	Control lever
cm3/1000 strokes Tolerance	: 1	.5	position YA mm : 34,838,8
cm3/1000 str. +-	: 1	.5	Control lever position YB mm : 43,148,7
cm3/1000 strokes Check tolerance	: 5	.0	position is limit . 45/146/1
cm3/1000s. +-	: 1	.5	
IDLE DELIVERY		Ŧ	End of test-specification sheet
Rated speed rpm	: 450	Ŧ	
Del. quantity cm3/1000 strokes	: 2	.0 ‡	
Tolerance cm3/1000 str. +-	: 2	.0 ‡	
check tolerance cm3/1000s. +-	: 2	.0 ‡	
Shutoff solenoid Volt	•	12	
		‡	
		‡	
		‡	
START TRANSITION		‡	
Rated speed rpm Del. quantity	: 230	+	
cm3/1000 strokes Tolerance	: 40	.0 ‡	
cm3/1000 str. +- Shutoff solenoid		+	
Volt	•	12	
Rated speed rpm Del. quantity	: 130	+	
cm3/1000 strokes Tolerance	: 115	.o Ţ	
cm3/1000 str. +-	: 30	.o ‡	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 02.12.96 Edition Test oil : ISO 4113

: 0 460 414 141 Part no. Pump designation : VE4/11F2000R686

Customer-spec. information Customer : FORD

Motor : 2.5L-DI 70 PS

Power KW 51.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance *C +:

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35 Tolerance bar +: 0.05

Test nozzle holde

: 1 688 901 114 assembly

Opening pressure

207 bar Tolerance bar + : 3

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,35 Tolerance mm +: 0.05

Outlet : B KDEP1151

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm 2.7 Tolerance mm +--: 0.1

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Supply pomp

pressure bar Tolerance bar +-: 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

3.0

12

Rated speed rpm : 1150 Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 35.8 Del. quantity

cm3/1000 strokes : 31.2 Tolerance

cm3/1000 str. +-: 0.5 Tolerance

cm3/1000 str. + :0.2 Spread

cm3/1000 strokes :

Shutoff solenoid Volt 12

Shutoff solenoid

12 Volt

Check tolerance

cm3/1000s. 4.0 :

IDLE SETTING

Rated speed rpm : 425 Del. quantity

7.8 cm3/1000 strokes : Tolerance

cm3/1000 str. + :1.0 Shutoff solenoid

Volt

Spread cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s.4.0

		+ Supply pomp + pressure bar : 5.7 + Tolerance bar +-: 0.3
FULL-LOAD SPEED RI	FGULATION	Shutoff solenoid Volt : 12
		+
Rated speed rpm Del. quantity		+ Rated speed rpm : 1150 + Supply pomp
cm3/1000 strokes Tolerance	: 31.5	pressure bar : 7.2 Tolerance bar + : 0.3
cm3/1000 str. +- Shutoff solenoid	: 1.0	+ Shutoff solenoid + Volt : 12
Volt	: 12	OVERFLOW QUANTITY
STARTING FUEL DEL	IVERY	}
Rated speed rpm	: 100	+ Rated speed rpm : 500 + Overflow quantity
Del. quantity cm3/1000 strokes	: 48.2	+ ccm/10s : 119.4 + Tolerance
Tolerance cm3/1000 str. +-	: 20.0	+ ccm/10s +: 16.6
Shutoff solenoid Volt	: 12	Check tolerance ccm/10s +: 16.6
		+ Shutoff solenoid + Volt : 12
		Rated speed rpm : 1950
INJECTION-PUMP TE	ST SPECIFICATIONS	+ Overflow quantity + ccm/10s : 150.0 + Tolerance
TIMING DEVICE CHAP	RACTERISTIC	ccm/10s +: 27.7
Rated speed rpm	: 2000	Check tolerance
SV travel mm	: 6.4	+ Shutoff solenoid
Tolerance mm + Check	: 0.4	+ Volt : 12
tolerance mm +- Shutoff solenoid	: 0.9	DELIVERY AND BREAKAWAY CHARACTERISTIC
Volt	: 12	Rated speed rpm : 2200
Rated speed rpm		+ Del. quantity
•	: 1000	Del. quantity - cm3/1000 strokes : 31.5 - Tolerance
SV travel mm Tolerance mm +-	: 1000 : 1.5 : 0.4	+ cm3/1000 strokes : 31.5
SV travel mm Tolerance mm +- Check	: 1.5	- cm3/1000 strokes : 31.5 - Tolerance - cm3/1000 str. +- : 1.0
SV travel mm Tolerance mm +-	: 1.5 : 0.4	- cm3/1000 strokes : 31.5 - Tolerance - cm3/1000 str. +- : 1.0 - Check tolerance - cm3/1000s. +- : 5.0
SV travel mm Tolerance mm + Check tolerance mm + Shutoff soleroid Volt	: 1.5 : 0.4 : 0.9 : 12	- cm3/1000 strokes : 31.5 - Tolerance - cm3/1000 str. + : 1.0 - Check tolerance - cm3/1000s. + : 5.0 - Shutoff solenoid - Volt : 12 - Rated speed rpm : 2300
SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt SUPPLY PUMP PRESSI	: 1.5 : 0.4 : 0.9 : 12	- cm3/1000 strokes : 31.5 Tolerance - cm3/1000 str. +- : 1.0 Check tolerance - cm3/1000S. +- : 5.0 Shutoff solenoid Volt : 12
SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt SUPPLY PUMP PRESSU Rated speed rpm Supply pomp	: 1.5 : 0.4 : 0.9 : 12 URE CHARACTERISTIC : 2000	- cm3/1000 strokes : 31.5 - Tolerance - cm3/1000 str. + : 1.0 - Check tolerance - cm3/1000s. + : 5.0 - Shutoff solenoid - Volt : 12 - Rated speed rpm : 2300 - Del. quantity - cm3/1000 strokes : 18.4 - Check tolerance - cm3/1000s. + : 6.0
SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt SUPPLY PUMP PRESSI Rated speed rpm Supply pomp pressure bar Tolerance bar +-	: 1.5 : 0.4 : 0.9 : 12 URE CHARACTERISTIC : 2000 : 9.0	- cm3/1000 strokes : 31.5 - Tolerance - cm3/1000 str. + : 1.0 - Check tolerance - cm3/1000s. + : 5.0 - Shutoff solenoid - Volt : 12 - Rated speed rpm : 2300 - Del. quantity - cm3/1000 strokes : 18.4 - Check tolerance
SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt SUPPLY PUMP PRESSI Rated speed rpm Supply pomp pressure bar	: 1.5 : 0.4 : 0.9 : 12 URE CHARACTERISTIC : 2000 : 9.0	- cm3/1000 strokes : 31.5 - Tolerance - cm3/1000 str. + : 1.0 - Check tolerance - cm3/1000s. + : 5.0 - Shutoff solenoid - Volt : 12 - Rated speed rpm : 2300 - Del. quantity - cm3/1000 strokes : 18.4 - Check tolerance - cm3/1000s. + : 6.0 - Shutoff solenoid

Tolerance	, , t	Spread	
cm3/1000 str. +-:	2.5	cm3/1000 strokes :	5.0
Check tolerance	+	Check tolerance	
cm3/1000s. +-:	2.5	cm3/1000s. +-:	1.5
Shutoff solenoid	1	Spread	
Volt :	12	cm3/1000 strokes :	5.0
,	1	· · · · · · · · · · · · · · · · · · ·	J.0
Rated speed rpm :	1950	IDLE DELIVERY	
Del. quantity	1730	TOLL DELIVERY	
- 11	43.8	Data dana da una	/35
	43.0	Rated speed rpm :	475
Tolerance	1	Del. quantity	7.0
cm3/1000 str. +-:	1.2	cm3/1000 strokes :	3.8
Check tolerance	†	Tolerance	
cm3/1000s. +-:	2.5	cm3/1000 str. +-:	3.0
Shutoff solenoid	+	Check tolerance	
Volt :	12	cm3/1000s. +-:	3.0
	+	Shutoff solenoid	
Rated speed rpm :	1700	Volt :	12
Del. quantity	1		. •
cm3/1000 strokes :	41.0		
Tolerance	1		
cm3/1000 str. +-:	1.2		
Check tolerance	1		
cm3/1000s. +-:	2.5		
Shutoff solenoid	T	EVHAUST_CAS DECEDEN	ATTON
	12 +	EXHAUST-GAS RECIRCUL	ATION
Volt :	12 T	Date de mare de sun	4050
not done done	T00	Rated speed rpm :	1250
Rated speed rpm :	500 +	Del. quantity	
Del. quantity	+	cm3/1000 strokes :	26.5
cm3/1000 strokes :	31.2	Tolerance	
Tolerance		cm3/1900 str. +-:	0.5
cm3/1000 str. ├— :	0.2	Check tolerance	
Check tolerance	+	cm3/1000s. +-:	2.5
cm3/1000s. +-:	3.0	Shutoff solenoid	
Shutoff solenoid	+	Volt :	12
Volt :	12 +		
	<u> </u>	START TRANSITION	
	1		
**************************************		Rated speed rpm :	480
ELECTR. SHUTOFF	1	Del. quantity	400
CONTROL LEVER, IDLE STO	Γ	cm3/1000 strokes :	28.6
CONTROL LEVER, IDEE ST	Vr T	Tolerance	20.0
Rated speed rpm :	425	cm3/1000 str. +-:	6.0
	†	Shutoff solenoid	0.0
Del. quantity	1.5		12
cm3/1000 strokes :	1.3	Volt :	12
Tolerance	†		
cm3/1000 str. +-:	1.5		
Check tolerance	+	Rated speed rpm :	300
cm3/1000s. +-:	1.5	Del. quantity	
Spread	+	cm3/1000 strokes :	45.2
cm3/1000 strokes :	5.0	Tolerance	
	+	cm3/1000 str. +:	15.0
FULL-LOAD STOP CONTROL	LEVER 1	Shutoff solenoid	
	1	Volt :	12
Rated speed rpm :	425	•	· -
Del. quantity	1		
cm3/1000 strokes :	1.5	ASSEMBLY AND ADJUSTM	ENT DIMENSIONS
Tolerance	I	ADDERDET AND ADDOCTED	CHI DIIICIAOTOMO
cm3/1000 str. +-:	1.5 I	Dimension K mm :	2,8
CHD/ 1000 Str. +- 1	17		
	+	Tolerance mm +-:	U, I

Dimension KF mm : 8,4
Tolerance mm + : 0,2
Dimension MS mm : 1,8
Tolerance mm + : 0,2

MICROSWITCH SET

: ARF 20,0

CONTROL LEVER POSITION SET

Control lever

position YA mm : 42,8..45,8

Control lever

position YB mm : 65,5..75,5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 11.02.97 Edition : ISO 4113 Test oil

Part no. : 0 460 424 147 Pump designation: VE4/12F1800R713-1

Customer-spec, information

Customer : IVECO-SOFIM Motor : 8140.43.2620

Power KW 85.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 55 Tolerance *C +-:

Overflow

restriction mm 0.75

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

Tolerance bar +-: 3

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 450

x length mm

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1100

Aneroid pressure

hPa 1200

Setting mm 1.6 Tolerance mm +: 0.1 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1100

Aneroid pressure

1200

Supply pomp

pressure bar 6.8 Tolerance bar +-: 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1100

Aneroid pressure

hPa 1200

Del. quantity

cm3/1000 strokes : 61.0

Tolerance

cm3/1000 str. +- : 0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 4.5

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 550

Del. quantity

cm3/1000 strokes : 30.0

Tolerance

cm3/1000 str. +-:0.5

Shutoff solenoid

Volt 12

Check tolerance

cm3/1000s. 4.5

IDLE SETTING

Rated speed rpm 375

Del. quantity

cm3/1000 strokes : 7.0

Tolerance

2.0

cm3/1000 str. + :

Shutoff solenoid

Volt 12

Spread			+				
cm3/1000 strokes	;	6.0	†	Rated speed rpm	:	1800	
Check tolerance			+	Aneroid pressure		_	
cm3/1000s.	:	6.5	+	hPa	:	1200	
			+	Supply pomp			
			+	pressure bar	:	8. 8	
			+	Tolerance bar +-	:	0.3	
			+	Shutoff solenoid			
FULL-LOAD SPEED R	EGULA	TION	+	Volt	:	12	
			+				
Rated speed rpm	:	2000	+	Rated speed rpm	:	600	
Pressure hPa	:	1200	+	Aneroid pressure			
Del. quantity			+	hPa	:	1200	
cm3/1000 strokes	:	43.0	+	Supply pomp			
Tolerance			+	pressure bar	:	5.3	
cm3/1000 str. +-	:	3.0	+	Tolerance bar +-	:	0.3	
Shutoff solenoid			₫.	Shutoff solenoid			
Volt	:	12	+	Volt	:	12	
			+				
STARTING FUEL DEL	IVERY		+	OVERFLOW QUANTITY			
		400	t				
Rated speed rpm	:	100	+	Rated speed rpm	:	1800	
Del. quantity			†	Aneroid pressure			
cm3/1000 strokes	:	85.0	+	hPa	:	1200	
Tolerance			+	Overflow quantity			
cm3/1000 str. +-	•	25.0	†	ccm/10s	:	166.6	
Shutoff solenoid		4.0	+	Tolerance			
Volt	:	12	†	ccm/10s +-	:	27.7	
			+				
			1	Chack talanana			
			T	Check tolerance			
			Ŧ	ccm/10s +-		41.6	
			Ŧ	ccm/10s +- Shutoff solenoid	•		
This course is a second of the		FOTTOATTONO	-	ccm/10s +-	•	41.6 12	
INJECTION-PUMP TE	ST SP	ECIFICATIONS	 	ccm/10s +- Shutoff solenoid Volt	•	12	
			— 	ccm/10s +- Shutoff solenoid Volt Rated speed rpm	•		
INJECTION-PUMP TE			 	ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure	•	12 600	
TIMING DEVICE CHA	RACTE	RISTIC	+ + + + +	ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa	:	12	
TIMING DEVICE CHA	RACTE		 + + + + + + + + + + + + + + + + + + +	ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity	:	12 600 1200	
TIMING DEVICE CHA Rated speed rpm Aneroid pressure	RACTE	RISTIC 1600	 + + + + + + + + + + + + + + + + + + +	ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s	:	12 600	
TIMING DEVICE CHA	RACTE	RISTIC	+ + + + + + + +	ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance	:	12 600 1200 133.3	
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa	RACTE	RISTIC 1600 1200		ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s	:	12 600 1200	
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm	RACTE	RISTIC 1600 1200 3.7	+ + + + + + + + +	ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +-	:	12 600 1200 133.3	
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +	RACTE	RISTIC 1600 1200		ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance	:	12 600 1200 133.3 16.6	
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check	RACTE	RISTIC 1600 1200 3.7 0.3		ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +-	:	12 600 1200 133.3	
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm +	RACTE	RISTIC 1600 1200 3.7		ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid	:	12 600 1200 133.3 16.6	
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid	RACTE	RISTIC 1600 1200 3.7 0.3		ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +-	:	12 600 1200 133.3 16.6	
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm +	RACTE	RISTIC 1600 1200 3.7 0.3		Ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt	:	12 600 1200 133.3 16.6 22.2	
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt	RACTE	RISTIC 1600 1200 3.7 0.3 0.7		ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid	:	12 600 1200 133.3 16.6 22.2	ERISTIC
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm	RACTE	RISTIC 1600 1200 3.7 0.3		Ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt DELIVERY AND BREA	: : : :	12 600 1200 133.3 16.6 22.2 12	ERISTIC
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure	RACTE	RISTIC 1600 1200 3.7 0.3 0.7 12		ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt DELIVERY AND BREA Rated speed rpm	:	12 600 1200 133.3 16.6 22.2	ERISTIC
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm	RACTE	RISTIC 1600 1200 3.7 0.3 0.7		ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt DELIVERY AND BREA Rated speed rpm Aneroid pressure	: : : :	12 600 1200 133.3 16.6 22.2 12 12 14 CHARACTI	ERISTIC
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa	RACTE	RISTIC 1600 1200 3.7 0.3 0.7 12 1400		Ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt DELIVERY AND BREA Rated speed rpm Aneroid pressure hPa	: : : :	12 600 1200 133.3 16.6 22.2 12	ERISTIC
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm	RACTE	RISTIC 1600 1200 3.7 0.3 0.7 12 1400 1200 2.8		ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt DELIVERY AND BREA Rated speed rpm Aneroid pressure hPa Del. quantity	: : : KAWA	12 600 1200 133.3 16.6 22.2 12 12 12 2000 1200	ERISTIC
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +	RACTE	RISTIC 1600 1200 3.7 0.3 0.7 12 1400		ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt DELIVERY AND BREA Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: : : KAWA	12 600 1200 133.3 16.6 22.2 12 12 14 CHARACTI	ERISTIC
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check	RACTE	RISTIC 1600 1200 3.7 0.3 0.7 12 1400 1200 2.8 0.3		ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt DELIVERY AND BREA Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	: : : : : :	12 600 1200 133.3 16.6 22.2 12 12 2000 1200 43.0	ERISTIC
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Check tolerance mm +	RACTE	RISTIC 1600 1200 3.7 0.3 0.7 12 1400 1200 2.8		ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt DELIVERY AND BREA Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +-	: : : : : :	12 600 1200 133.3 16.6 22.2 12 12 12 2000 1200	ERISTIC
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid	RACTE	RISTIC 1600 1200 3.7 0.3 0.7 12 1400 1200 2.8 0.3 0.7		Ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt DELIVERY AND BREA Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. Check tolerance	: : : : : :	12 600 1200 133.3 16.6 22.2 12 32 CHARACT 2000 1200 43.0 3.0	ERISTIC
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Check tolerance mm +	RACTE	RISTIC 1600 1200 3.7 0.3 0.7 12 1400 1200 2.8 0.3		Ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt DELIVERY AND BREA Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +-	: : : : : :	12 600 1200 133.3 16.6 22.2 12 12 2000 1200 43.0	ERISTIC
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid	RACTE	RISTIC 1600 1200 3.7 0.3 0.7 12 1400 1200 2.8 0.3 0.7 12		Ccm/10s +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt DELIVERY AND BREA Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. Check tolerance	: : : : : :	12 600 1200 133.3 16.6 22.2 12 32 CHARACT 2000 1200 43.0 3.0	ERISTIC

		∔ Shut	off solenoid		
Rated speed rpm	: 2100	→ Volt		:	12
Aneroid pressure		1			
	: 1200	→ Rate	d speed rpm	: 600)
Del. quantity			oid pressure		
cm3/1000 strokes	: 20.0	+ hPa	ora pressure	. 15	200
Check tolerance	. 20.0		quantity	. 12	-00
	: 7.0			. /-	7.0
cm3/1000s. +-	: 7.0		1000 strokes	: 01	7.0
Shutoff solenoid	4.5		rance	_	
Volt	: 12	· ·	1000 str. +-	: 2	2.0
			k tolerance		
Rated speed rpm	: 2200	+ cm3/	1000s. +-	: 6	5.0
Aneroid pressure		→ Shut	off solenoid		
hPa	: 1200	+ Volt		:	12
Del. quantity	_	1		•	
cm3/1000 strokes	: 2.0	⊥ Pata	d speed rpm	: 1100	ר
Tolerance			oid pressure	. 1100	,
cm3/1000 str. +-	: 2.0		ord pressure	. 4-	200
	. 2.0	+ hPa	. • .	: 12	200
Check tolerance			quantity		
cm3/1000s. +-	: 2.0		1000 strokes	: 61	1.0
Shutoff solenoid		+ Tole	rance		
Volt	: 12	+ cm3/	1000 str. +-	: (3.5
		+ Chec	k tolerance		
Rated speed rpm	: 700		1000s. +-	: 3	3.5
Aneroid pressure			off solenoid		
	: 400	Volt		•	12
Hr G	. 400	1 voce		•	12
LDA/		T			
		Ť			
	: 6.2	† ====			
Del. quantity		+ ELEC	TR. SHUTOFF		
	40 -				
cm3/1000 strokes	: 49.0		ROL LEVER, IDL	E STOP	
cm3/1000 strokes Tolerance			ROL LEVER, IDL		
cm3/1000 strokes		CONT		E STOP : 375	5
cm3/1000 strokes Tolerance		CONT Rate	d speed rpm		5
cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance	: 0.5	CONT Rate Del.	d speed rpm quantity	: 375	
cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. +-	: 0.5	CONT Rate Del.	d speed rpm quantity 1000 strokes	: 375	5 1.5
cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid	: 0.5 : 3.5	CONT Rate Del. cm3/	d speed rpm quantity 1000 strokes rence	: 375 : 1	1.5
cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. +-	: 0.5	CONT Rate Del. cm3/ Tole cm3/	d speed rpm quantity 1000 strokes rance 1000 str. +-	: 375 : 1	
cm3/1030 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt	: 0.5 : 3.5 : 12	CONT Rate Del. cm3/ Tole cm3/ Chec	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance	: 375 : 1	1.5
cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm	: 0.5 : 3.5	CONT Rate Del. cm3/ Tole cm3/ Chec	d speed rpm quantity 1000 strokes rence 1000 str. +- k tolerance 1000s. +-	: 375 : 1	1.5
cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure	: 0.5 : 3.5 : 12 : 1800	CONT Rate Del. cm3/ Tole cm3/ Chec cm3/ Spre	d speed rpm quantity 1000 strokes rence 1000 str. +- k tolerance 1000s. +- ad	: 375 : 1 : 1	1.5 1.5
cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa	: 0.5 : 3.5 : 12	CONT Rate Del. cm3/ Tole cm3/ Chec cm3/ Spre	d speed rpm quantity 1000 strokes rence 1000 str. +- k tolerance 1000s. +-	: 375 : 1 : 1	1.5
cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity	: 0.5 : 3.5 : 12 : 1800 : 1200	CONT Rate Del. cm3/ Tole cm3/ Chec cm3/ Spre cm3/	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes	: 375 : 1 : 1	1.5 1.5 1.5
cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: 0.5 : 3.5 : 12 : 1800 : 1200	CONT Rate Del. cm3/ Tole cm3/ Chec cm3/ Spre cm3/	d speed rpm quantity 1000 strokes rence 1000 str. +- k tolerance 1000s. +- ad	: 375 : 1 : 1	1.5 1.5 1.5
cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity	: 0.5 : 3.5 : 12 : 1800 : 1200	CONT Rate Del. cm3/ Tole cm3/ Chec cm3/ Spre cm3/	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes	: 375 : 1 : 1	1.5 1.5 1.5
cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: 0.5 : 3.5 : 12 : 1800 : 1200 : 65.0	CONT Rate Del. cm3/ Tole cm3/ Chec cm3/ Spre cm3/	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes -LOAD STOP CON	: 375 : 1 : 1 : 5	1.5 1.5 1.5 5.0 /ER
cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +	: 0.5 : 3.5 : 12 : 1800 : 1200 : 65.0	CONT Rate Del. cm3/ Tole cm3/ Chec cm3/ Spre cm3/	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes -LOAD STOP CON	: 375 : 1 : 1 : 5	1.5 1.5 1.5 5.0 /ER
cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance	: 0.5 : 3.5 : 12 : 1800 : 1200 : 65.0 : 2.0	CONT Rate Del. cm3/ Tole cm3/ Chec cm3/ Spre cm3/ FULL Rate Del.	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes -LOAD STOP CON d speed rpm quantity	: 375 : 1 : 1 : 5 TROL LEV	1.5 1.5 1.5 5.0 /ER
cm3/1030 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. +	: 0.5 : 3.5 : 12 : 1800 : 1200 : 65.0	CONT Rate Del. cm3/ Tole cm3/ Chec cm3/ Spre cm3/ FULL Rate Del. cm3/	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes -LOAD STOP CON d speed rpm quantity 1000 strokes	: 375 : 1 : 1 : 5 TROL LEV	1.5 1.5 1.5 5.0 /ER
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cm3/1030 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. +	: 0.5 : 3.5 : 12 : 1800 : 1200 : 65.0 : 2.0	Rate Del. cm3/ Tole cm3/ Chec cm3/ Spre cm3/ FULL Rate Del. cm3/	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes -LOAD STOP CON d speed rpm quantity 1000 strokes rance 1000 str. +-	: 375 : 1 : 1 : 5 TROL LEV : 375	1.5 1.5 1.5 5.0 /ER
cm3/1030 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt	: 0.5 : 3.5 : 12 : 1800 : 1200 : 65.0 : 2.0 : 3.5 : 12	Rate Del. cm3/ Tole cm3/ Chec cm3/ Spre cm3/ FULL Rate Del. cm3/ Tole cm3/	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes -LOAD STOP CON d speed rpm quantity 1000 strokes rance 1000 str. +- ad	: 375 : 1 : 1 : 5 TROL LEV : 375 : 1	1.5 1.5 5.0 /ER 5
cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm	: 0.5 : 3.5 : 12 : 1800 : 1200 : 65.0 : 2.0 : 3.5	Rate Del. Cm3/ Tole cm3/ Chec cm3/ Spre cm3/ FULL Rate Del. cm3/ Tole cm3/ Spre	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes -LOAD STOP CON d speed rpm quantity 1000 strokes rance 1000 str. +- ad 1000 strokes	: 375 : 1 : 1 : 5 TROL LEV : 375 : 1	1.5 1.5 1.5 5.0 /ER
cm3/1030 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1030s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure	: 0.5 : 3.5 : 12 : 1800 : 1200 : 65.0 : 2.0 : 3.5 : 12	Rate Del. Cm3/ Tole cm3/ Chec cm3/ Spre cm3/ FULL Rate Del. Cm3/ Spre cm3/ Chec	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes -LOAD STOP CON d speed rpm quantity 1000 strokes rance 1000 str. +- ad 1000 strokes k tolerance	: 375 : 1 : 1 : 5 TROL LEV : 375 : 1	1.5 1.5 5.0 /ER 5
cm3/1030 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1030s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa	: 0.5 : 3.5 : 12 : 1800 : 1200 : 65.0 : 2.0 : 3.5 : 12	CONT Rate Del. cm3/ Tole cm3/ Chec cm3/ FULL Rate Del. cm3/ Tole cm3/ Chec cm3/ Chec cm3/	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes -LOAD STOP CON d speed rpm quantity 1000 strokes rance 1000 str. +- ad 1000 strokes k tolerance 1000s. +-	: 375 : 1 : 1 : 5 TROL LEV : 375 : 1	1.5 1.5 5.0 /ER 5
cm3/1030 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity	: 0.5 : 3.5 : 12 : 1800 : 1200 : 65.0 : 2.0 : 3.5 : 12 : 900 : 1200	Rate Del. cm3/ Tole cm3/ Chec cm3/ FULL Rate Del. cm3/ Fole cm3/ Chec cm3/ Spre cm3/ Spre	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes -LOAD STOP CON d speed rpm quantity 1000 strokes rance 1000 str. +- ad 1000 strokes k tolerance 1000s. +- ad	: 375 : 1 : 1 : 5 TROL LEV : 375 : 1	1.5 1.5 1.5 5.0 /ER 5.1.5 1.5
cm3/1030 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1030s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa	: 0.5 : 3.5 : 12 : 1800 : 1200 : 65.0 : 2.0 : 3.5 : 12 : 900 : 1200	Rate Del. cm3/ Tole cm3/ Chec cm3/ FULL Rate Del. cm3/ Fole cm3/ Chec cm3/ Spre cm3/ Spre	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes -LOAD STOP CON d speed rpm quantity 1000 strokes rance 1000 str. +- ad 1000 strokes k tolerance 1000s. +-	: 375 : 1 : 1 : 5 TROL LEV : 375 : 1	1.5 1.5 5.0 /ER 5
cm3/1030 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity	: 0.5 : 3.5 : 12 : 1800 : 1200 : 65.0 : 2.0 : 3.5 : 12 : 900 : 1200	Rate Del. cm3/ Tole cm3/ Chec cm3/ FULL Rate Del. cm3/ Fole cm3/ Chec cm3/ Spre cm3/ Spre	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes -LOAD STOP CON d speed rpm quantity 1000 strokes rance 1000 str. +- ad 1000 strokes k tolerance 1000s. +- ad	: 375 : 1 : 1 : 5 TROL LEV : 375 : 1	1.5 1.5 1.5 5.0 /ER 5.1.5 1.5
cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000str. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	: 0.5 : 3.5 : 12 : 1800 : 1200 : 65.0 : 2.0 : 3.5 : 12 : 900 : 1200 : 62.0	Rate Del. cm3/ Tole cm3/ Chec cm3/ Spre cm3/ Tole cm3/ FULL Rate Del. cm3/ Tole cm3/ Spre cm3/	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes -LOAD STOP CON d speed rpm quantity 100C strokes rance 1000 str. +- ad 1000 strokes k tolerance 1000s. +- ad 1000s. +- ad 1000 strokes	: 375 : 1 : 1 : 5 TROL LEV : 375 : 1	1.5 1.5 1.5 5.0 /ER 5.1.5 1.5
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cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance	: 0.5 : 3.5 : 12 : 1800 : 1200 : 65.0 : 2.0 : 3.5 : 12 : 900 : 1200 : 62.0 : 2.5	Rate Del. cm3/ Tole cm3/ Chec cm3/ Spre cm3/ FULL Rate Del. cm3/ Fole cm3/ Spre cm3/ Spre cm3/ Spre cm3/ Spre cm3/	d speed rpm quantity 1000 strokes rance 1000 str. +- k tolerance 1000s. +- ad 1000 strokes -LOAD STOP CON d speed rpm quantity 100G strokes rance 1000 str. +- ad 1000 strokes k tolerance 1000s. +- ad 1000 strokes belivery	: 375 : 1 : 1 : 5 TROL LEV : 375 : 1 : 5	1.5 1.5 1.5 5.0 /ER 5.1.5 1.5
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Del. quantity cm3/1000 strokes Tolerance	:	1.5
cm3/1000 str. +	:	1.5
Check tolerance cm3/1000s. +- Shutoff solenoid	:	1.5
Volt	:	12
Rated speed rpm Del. quantity	:	275
cm3/1000 strokes	:	43.0
Tolerance cm3/1000 str. +- Check tolerance	:	7.0
cm3/1000s. +	:	10.0
Shutoff solenoid Volt	:	12

START TRANSITION

Rated speed rpm : 500

Del. quantity			
cm3/1000 strokes	:	29.0	
Tolerance cm3/1000 str. ~	:	3.0	
Shutoff solenoid Volt	:	12	
Rated speed rpm	:	200	
Del. quantity cm3/1000 strokes	:	95.0	
Tolerance cm3/1000 str. +- Shutoff solenoid	:	15.0	
Volt	:	12	

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Tolerance mm + Dimension KF mm Tolerance mm + MS1 dimension mm	
Tolerance mm +-	: 0,15

CONTROL LEVER POSITION SET

Control lever

position YA mm : 25,9..27,9

Control Lever

position YB mm : 64,1..73,9

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11,02,97 Test oil : ISO 4113

: 0 460 424 151 Part no. Pump designation: VE4/12F1200R731

Customer-spec. information Customer : AVIA : D 421.76 Motor Power KW 76.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C +-:

Overflow

restriction mm 0.75

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

Tolerance bar + :

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1100 Aneroid pressure

hPa 1500

Setting mm 1.0 Tolerance mm +-: 0.2 Shutoff solenoid

Volt 12

KSB/AFB Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1100 Aneroid pressure

hPa 1500

Supply pomp pressure bar Tolerance bar +-: 0.2

Shutoff solenoid Volt 12

KSB/AFB Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 700 Aneroid pressure hPa 1500

Del. quantity cm3/1000 strokes : 80.5

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 5.0

Shutoff solenoid

Volt 12

KSB/AFB Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 52.0

Tolerance

cm3/1000 str. +-:0.5

Shutoff solenoid

Volt 12

Check tolerance

cm3/1000s. 5.0

KSB/AFB Volt : 12

IDLE SETTING

Rated speed rpm : 375	†
Del. quantity	+ KSB/AFB Volt : 12
cm3/1000 strokes : 15.0	+
Tolerance	SUPPLY PUMP PRESSURE CHARACTERISTIC
cm3/1000 str. + : 0.5	+
Shutoff solenoid	Rated speed rpm : 1400
Volt : 12	+ Aneroid pressure
Spread	+ hPa : 1500
cm3/10/0 strokes : 5.0	+ Supply pomp
Check tolerance	pressure bar : 8.9
cm3/1000s. : 5.0	+ Tolerance bar +: 0.3
, J. 6	+ Shutoff solenoid
KSB/AFB Volt : 12	Volt : 12
12 TODIALD 4066 . 12	I vocc
	KSB/AFB Volt : 12
	+ KSB/AFB Volt : 12
	T Potentian and the Too
EUL LOAD OPEN DECLUATION	+ Rated speed rpm : 700
FULL-LOAD SPEED REGULATION	+ Aneroid pressure
D. I. J. and J. J. and A. 21.0	+ hPa : 1500
Reted speed rpm : 1350	Supply pomp
Pressure hPa : 1500	pressure bar : 6.3
Del. quantity	+ Tolerance bar + : 0.3
cm3/1000 strokes : 60.0	+ Shutoff solenoid
Tolerance	+ Volt : 12
cm3/1000 str. + : 0.5	-
Shutoff solenoid	+ KSB/AFB Volt : 12
Volt : 12	+
	+ OVERFLOW QUANTITY
KSB/AFB Volt : 12	†
	+ Rated speed rpm : 500
STARTING FUEL DELIVERY	+ Aneroid pressure
	+ hPa : 1500
Rated speed rpm : 100	† Overflow quantity
Del. quantity	+ ccm/10s : 133.3
cm3/1000 strokes : 90.0	+ Tolerance
Tolerance	+ ccm/10s + : 16.6
cm3/1000 str. +-: 20.0	+
Shutoff solenoid	+ Check tolerance
Volt : 12	
	+
	+ ccm/10s +-: 16.6 + Shutoff solenoid
KSB/AFB Volt : 12	+ ccm/10s +-: 16.6 + Shutoff solenoid - Volt : !2
KSB/AFB Volt : 12	+ Shutoff solenoid
KSB/AFB Volt : 12	Shutoff solenoid Volt : !2
KSB/AFB Volt : 12	Shutoff solenoid Volt : 12
KSB/AFB Volt : 12	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12
KSB/AFB Volt : 12	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 Rated speed rpm : 1200
	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 Rated speed rpm : 1200 Aneroid pressure
KSB/AFB Volt : 12 INJECTION-PUMP TEST SPECIFICATIONS	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1500
INJECTION-PUMP TEST SPECIFICATIONS	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Overflow quantity
	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Overflow quantity ccm/10s : 161.1
INJECTION-PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Overflow quantity ccm/10s : 161.1 Tolerance
INJECTION-PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1400	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Overflow quantity ccm/10s : 161.1
INJECTION-PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1400 Aneroid pressure	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Overflow quantity ccm/10s : 161.1 Tolerance ccm/10s + : 22.2
INJECTION-PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1400	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Overflow quantity ccm/10s : 161.1 Tolerance ccm/10s +- : 22.2 Check tolerance
INJECTION-PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1400 Aneroid pressure hPa : 1500	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Overflow quantity ccm/10s : 161.1 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2
INJECTION—PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1400 Aneroid pressure hPa : 1500 SV travel mm : 2.8	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Overflow quantity ccm/10s : 161.1 Tolerance ccm/10s +: 22.2 Check tolerance ccm/10s +: 22.2 Shutoff solenoid
INJECTION—PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1400 Aneroid pressure hPa : 1500 SV travel mm : 2.8 Tolerance mm +-: 0.4	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Overflow quantity ccm/10s : 161.1 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2
INJECTION-PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1400 Aneroid pressure hPa : 1500 SV travel mm : 2.8 Tolerance mm + : 0.4 Cheix	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Overflow quantity ccm/10s : 161.1 Tolerance ccm/10s +: 22.2 Check tolerance ccm/10s +: 22.2 Shutoff solenoid Volt : 12
INJECTION-PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1400 Aneroid pressure hPa : 1500 SV travel mm : 2.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.7	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Overflow quantity ccm/10s : 161.1 Tolerance ccm/10s +: 22.2 Check tolerance ccm/10s +: 22.2 Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1400 Aneroid pressure hPa : 1500 SV travel mm : 2.8 Tolerance mm + : 0.4 Cheix	Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Overflow quantity ccm/10s : 161.1 Tolerance ccm/10s +: 22.2 Check tolerance ccm/10s +: 22.2 Shutoff solenoid Volt : 12

Dated aread are		1350	+	Aneroid pressure		000
Aneroid pressure	:		‡	hPa	:	800
hPa Del. quantity	:	1500	‡	LDA/ HBA stroke mm		6.7
cm3/1000 strokes Tolerance	:	60.0	+	Del. quantity cm3/1000 strokes	•	70.0
cm3/1000 str. +-	:	0.5	Ţ	Tolerance		
Check tolerance cm3/1000s. +-	:	5.0	‡	cm3/1000 str. +- Check tolerance	:	0.5
Shutoff solenoid Volt		12	+	cm3/1000s. +-	;	4.0
	•		‡	Shutoff solenoid Volt	:	12
KSB/AFB Volt	:	12	1	KSB/AFB Volt	:	12
Rated speed rpm	:	1450	+		•	
Aneroid pressure hPa	;	1500	‡	Rated speed rpm Aneroid pressure	:	1200
Del. quantity cm3/1000 strokes		23.5	+	hPa	:	1500
Check tolerance	•		Ţ	Del. quantity cm3/1000 strokes	:	82.0
cm3/1000S. +- Shutoff solenoid	:	8.0	‡	Tolerance cm3/1000 str. +-	•	2.5
Volt	:	12	+	Check tolerance	•	
KSB/AFB Volt	:	12	‡	cm3/1000s. +- Shutoff solenoid	:	3.5
Rated speed rpm	:	1300	1	Volt	:	12
Aneroid pressure	•	-	+	KSB/AFB Volt	:	12
hPa Del. quantity	:	1500	‡	Rated speed rpm	:	1000
cm3/1000 strokes Tolerance	:	74.0	+	Aneroid pressure		1500
cm3/1000 str. +-	:	5.0	Ŧ	Del. quantity	•	
Check tolerance	:	8.0	†	cm3/1000 strokes Tolerance	•	82.0
Shutoff solenoid			+	cm3/1000 str. +	:	3.5
Volt	•	12	Ţ	Check tolerance cm3/1000s. +	:	5.0
KSB/AFB Volt	:	12	‡	Shutoff solenoid Volt	•	12
Rated speed rpm	:	1550	+			
Aneroid pressure hPa	:	1500	‡	KSB/AFB Volt	:	12
Del. quantity cm3/1000 strokes		1.5	<u> </u>	Rated speed rpm Aneroid pressure	:	700
Tolerance			+	hPa	:	1500
cm3/1000 str. +- Check tolerance	:	1.5	‡	Del. quantity cm3/1000 strokes	:	80.5
cm3/1000s. +- Shutoff solenoid	:	1.5	†	Tolerance cm3/1000 str. +-		0.5
Volt	:	12	Ŧ	Check tolerance		
KSB/AFB Volt	:	12	‡	cm3/1000s. +- Shutoff solenoid	:	3.0
		700	+	Volt	:	12
Rated speed rpm	i	700	Ţ			
			1			

ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP

E15

		1
Rated speed rpm Del. quantity		ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes Tolerance	: 1.5	<u> </u>
cm3/1000 str. +- Check tolerance	: 1.5	LDA/ HBA stroke mm : 6.7
cm3/1000s. +-	: 1.5	- Dimension K mm : 3,7
cm3/1000 strokes	: 5.0	Tolerance mm + : 0,1 Dimension KF mm : 6,4
KSB/AFB Volt	: 12	Tolerance mm +-: 0,2 MS1 dimension mm : 1,35 Tolerance mm +-: 0,15
FULL-LOAD STOP CON	TROL LEVER	1 occi ance imi
11	: 375	Ţ
Del. quantity cm3/1000 strokes	: 1.5	+ CONTROL LEVER POSITION + SET
Tolerance cm3/1000 str. +-	: 1.5	† Control Louis
Spread cm3/1000 strokes Check tolerance	: 5.0	Control lever position YA mm : 40,042,0
cm3/1000s. +-	: 1.5	Control lever position YB mm : 42,551,5
cm3/1000 strokes	: 5.0	posteron (B mm . 42,5,51,5
KSB/AFB Volt	: 12	
IDLE DELIVERY		End of test-specification sheet
Rated speed rpm Del. quantity	: 500	1
cm3/1000 strokes Tolerance	: 1.5	1
cm3/1000 str. +-	: 1.5	
cm3/1000s. +- Shutoff solenoid	: 1.5	1
Volt	: 12	<u> </u>
KSB/AFB Volt	: 12	1
		1
		<u>†</u>
		+
START TRANSITION		‡
Rated speed rpm : Del. quantity	: 250	‡
cm3/1000 strokes Tolerance	: 53.0	‡
cm3/1000 str. +- Shutoff solenoid	: 5.0	‡
Volt	: 12	‡

12

KSB/AFB Volt

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07.02.97 Edition Test oil : ISO 4113

Part no. : 0 460 424 153 Pump designation : VE4/12F1200R737

Customer-spec. information Customer : MAN

Motor : D 0824 LFL 08

Power KW 33.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C + :

Overflow

restriction mm 0.75

Inlet press. bar : 0.35 Tolerance bar + :

Test nozzle holde

: 1 688 901 110 assembly

Opening pressure

250 bar Tolerance bar +-:

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 840

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

900 Rated speed rpm Aneroid pressure

1200 hPa

Setting mm 1.8 Tolerance mm +-: 0.2 Shutoff solenoid

Volt 24

SUPPLY PUMP PRESSURE

Rated speed rpm 900

Aneroid pressure

hPa 1200

Supply pomp

pressure bar 7.4 Tolerance bar +-: 0.3

Shutoff solenoid

Volt 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 1000

Aneroid pressure

hPa 1200

Del. quantity

cm3/1000 strokes : 99.0

Tolerance

cm3/1000 str. +-:0.5 Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 4.5

Shutoff solenoid

Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 72.0

Tolerance

cm3/1000 str. + :0.5

Shutoff solenoid

24 Volt

Check tolerance

cm3/1000s. 4.5 •

IDLE SETTING

Rated speed rpm : 400

Del. quantity

cm3/1000 strokes : 20.0

Tolerance

cm3/1000 str. + :2.5

Shutoff solenoid

24 Volt

Spread		1			
cm3/1000 strokes Check tolerance	: 6.0	Rated speed rpm Aneroid pressure		1200	
cm3/1000s.	: 6.5	∤ hPa	:	1200	
		+ Supply pomp + pressure bar + Tolerance bar + + Shutoff solenoid		8.6 0.3	
FULL-LOAD SPEED R	EGULATION	Volt	:	24	
Rated speed rpm Pressure hPa	: 1280 : 1200	Rated speed rpm Aneroid pressure		500	
Del. quantity cm3/1000 strokes	: 79.5	+ hPa + Supply pomp	:	1200	
Tolerance cm3/1000 str. +-	: 3.0	pressure bar Tolerance bar +	- :	5.4 0.3	
Shutoff solenoid Volt	: 24	+ Shutoff solenoid + Volt	:	24	
STARTING FUEL DEL	IVERY	OVERFLOW QUANTIT	Y		
Rated speed rpm Del. quantity	: 100	Rated speed rpm Overflow quantit	:	500	
cm3/1000 strokes Tolerance	: 120.0	ccm/10s Tolerance	:	125.0	
cm3/1000 str. +- Shutoff solenoid	: 30.0	1.00	-:	16.6	
Volt	: 24		-:	22.2	
		+ Shutoff solenoid + Volt	:	24	
		Rated speed rpm		4200	
INJECTION-PUMP TE	ST SPECIFICATIO			1200	
INJECTION-PUMP TE		NS + Aneroid pressure + hPa	:	1200	
TIMING DEVICE CHAP	RACTERISTIC 800	Aneroid pressure hPa Overflow quantity ccm/10s Tolerance	:		
TIMING DEVICE CHAP	RACTERISTIC 800	Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +	:	1200	
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm	: 800 : 1200 : 0.8	Aneroid pressure + hPa - Overflow quantity - ccm/10s - Tolerance - ccm/10s - Check tolerance - ccm/10s - +	: - :	1200 166.6	
TIMING DEVICE CHAIR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +	: 800 : 1200 : 0.8 : 0.4	Aneroid pressure + hPa - Overflow quantity - ccm/10s - Tolerance - ccm/10s + - Check tolerance	: - :	1200 166.6 27.7	
TIMING DEVICE CHAIR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Shutoff solenoid	: 800 : 1200 : 0.8 : 0.4 : 0.7	Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid	:	1200 166.6 27.7 41.6 24	CSTIC
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Shutoff solenoid Volt	: 800 : 1200 : 0.8 : 0.4 : 0.7 : 24	Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s + Check tolerance ccm/10s + Shutoff solenoid Volt DELIVERY AND BRE	: - : - : : akawa	1200 166.6 27.7 41.6 24	STIC
TIMING DEVICE CHAIR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure	: 800 : 1200 : 0.8 : 0.4 : 0.7 : 24 : 1200	Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREA Rated speed rpm Aneroid pressure hPa	: - : - : : akawa	1200 166.6 27.7 41.6 24 Y CHARACTERI	STIC
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa	RACTERISTIC : 800 : 1200 : 0.8 : 0.4 : 0.7 : 24 : 1200 : 1200	Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BRE Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: - : - : : AKAWA :	1200 166.6 27.7 41.6 24 Y CHARACTERI	STIC
TIMING DEVICE CHAIR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +-	RACTERISTIC : 800 : 1200 : 0.8 : 0.4 : 0.7 : 24 : 1200 : 1200 : 3.3	Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s + Check tolerance ccm/10s + Shutoff solenoid Volt DELIVERY AND BRE Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +	: - : - : : AKAWA :	1200 166.6 27.7 41.6 24 Y CHARACTERI 1280 1200	STIC
TIMING DEVICE CHAIR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Check tolerance mm +-	RACTERISTIC : 800 : 1200 : 0.8 : 0.4 : 0.7 : 24 : 1200 : 1200 : 1200 : 3.3 : 0.4	Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s + Check tolerance ccm/10s + Shutoff solenoid Volt DELIVERY AND BRE Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. +	: - : - : : AKAWA :	1200 166.6 27.7 41.6 24 Y CHARACTERI 1280 1200 79.5	STIC
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check	RACTERISTIC : 800 : 1200 : 0.8 : 0.4 : 0.7 : 24 : 1200 : 1200 : 1200 : 3.3 : 0.4	Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s + Check tolerance ccm/10s + Shutoff solenoid Volt DELIVERY AND BRE Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. Check tolerance	: - : - : AKAWA : :	1200 166.6 27.7 41.6 24 Y CHARACTERI 1280 1200 79.5 3.0	STIC

Aneroid pressure :	1200	‡	Del. quantity cm3/1000 strokes :	79. 5
Del. quantity cm3/1000 strokes :	7.5	‡	Tolerance cm3/1000 str. +-:	2.5
Check tolerance cm3/1000s. +-:	7.5	+	Check tolerance cm3/1000s. +-:	4.0
Shutoff solenoid Volt :	24	+	Shutoff solenoid Volt :	24
Rated speed rpm : Aneroid pressure	1400	Ī	Rated speed rpm : Aneroid pressure	700
hPa : Del. quantity	1200	1	hPa :	1200
cm3/1000 strokes : Tolerance	1.5	‡	cm3/1000 strokes : Tolerance	108.8
cm3/1000 str. + : Check tolerance	1.5	+	cm3/1000 str. +-: Check tolerance	2.5
cm3/1000s. +-: Shutoff solenoid	1.5	ţ	cm3/1000s. + : Shutoff solenoid	4.0
Volt :	24	‡	Volt :	24
Rated speed rpm : Aneroid pressure hPa :	1330 1200	‡	Rated speed rpm : Aneroid pressure hPa :	
Del. quantity cm3/1000 strokes :	30.0	Ī	Del. quantity cm3/1000 strokes :	1200 119.2
Tolerance cm3/1000 str. + :	15.0	<u> </u>	Tolerance cm3/1000 str. +-:	4.5
Check tolerance cm3/1000s.	15.0	+	Check tolerance cm3/1000s. +-:	6.0
Shutoff solenoid Volt :	24	‡	Shutoff solenoid Volt :	24
Rated speed rpm :	500	‡	Rated speed rpm :	1000
Aneroid pressure hPa : Del. quantity	500	I	Aneroid pressure hPa : Del. quantity	1200
cm3/1000 strokes : Tolerance	107.5	Ī	cm3/1000 strokes : Tolerance	99.0
cm3/1000 str. +-: Check tolerance	0.5	+	cm3/1000 str. +-: Check tolerance	0.5
cm3/1000s. + : Shutoff solenoid	2.5	‡	cm3/1000s. + : Shutoff solenoid	
Volt :	24	‡	Volt :	24
Rated speed rpm : Aneroid pressure hPa :	1200 1200	†	ELECTR CHITOEE	
Del. quantity cm3/1000 strokes :	95.7	Ī	ELECTR. SHUTOFF CONTROL LEVER, IDLE	STOP
Tolerance cm3/1000 str. +-:	2.5	+	Rated speed rpm : Del. quantity	400
Check tolerance cm3/1000s. +-:	4.0	‡	cm3/1000 strokes : Tolerance	1.5
Shutoff solenoid Volt :	24	†	cm3/1000 str. + : Check tolerance	1.5
Rated speed rpm :	500	‡	cm3/1000s. +-: Spread	1.5
Aneroid pressure hPa :	200	‡	cm3/1000 strokes :	5.0

FULL-LOAD STOP CONTROL LEVER

Rated speed rpm Del. quantity	:	400
cm3/1000 strokes	:	1.5
Tolerance cm3/1000 str. +-	:	1.5
Spread cm3/1000 strokes	:	5.0
Check tolerance cm3/1000s. +	•	1.5
Spread	•	5.0

IDLE DELIVERY

Rated speed rpm	:	500
Del. quantity cm3/1000 strokes	:	1.5
Tolerance cm3/1000 str. +-	:	1.5
Check tolerance cm3/1000s. +-	:	1.5
Shutoff solenoid Volt	:	24

Rated speed rpm	:	300
Del. quantity cm3/1000 strokes	:	52.0
Tolerance		
cm3/1000 str. +-	:	8.0
Check tolerance		
cm3/1000s. +-	:	10.0
Shutoff solenoid		
Volt	:	24

START TRANSITION

Rated speed rpm	:	190
Del. quantity cm3/1000 strokes Tolerance	:	70.0
cm3/1000 str. + Shutoff solenoid	:	20.0
Volt	:	24
Rated speed rpm	:	130
Del. quantity cm3/1000 strokes	:	120.0
Tolerance cm3/1000 str. +-	:	30.0
Shutoff solenoid Volt	:	24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm	:	3,7
Tolerance mm +-	:	0,1
Dimension KF mm	:	8,4
Tolerance mm +-	:	0,2
Dimension MS mm	:	1,0
Tolerance mm +	:	0,2

CONTROL LEVER POSITION SET

Control lever	
position YA mm	+ 37.4. 49.4

Control lever position YB mm : 41,9..47,1

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 13.02.97 Edition Test cil : ISO 4113

: 0 460 426 273 Part no. Pump designation: VE6/12F1200R738

Customer-spec. information : MAN Customer

Motor : D 0824LF18/EFL10

Power KW 162.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C + :

Overflow

restriction mm

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

: 1 688 901 110 assembly

Opening pressure

bar Tolerance bar + :

Test lines : 1 680 750 000

Outside diameter : 6.00

2.00 x inside diameter: x length mm 840

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 900

Aneroid pressure

hPa 1500

Setting mm 2.1 Tolerance mm +-: 0.2 Shutoff solenoid

Volt 24

SUPPLY PUMP PRESSURE

Rated speed rpm 900

Aneroid pressure

hPa 1500

Supply pomp

pressure bar 7.4 Tolerance bar + : 0.3

Shutoff solenoid

Volt 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 1000 Aneroid pressure

hPa 1500

Del. quantity

cm3/1000 strokes : 105.5 Tolerance

cm3/1000 str. +-:0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000S. 4.5

Shutoff solenoid

Valt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 62.0

Tolerance

cm3/1000 str. + :0.5

Shutoff solenoid

Volt 24

Check tolerance

cm3/1000s.4.5

IDLE SETTING

Rated speed rpm 300

Del. quantity cm3/1000 strokes :

12.0

Tolerance

cm3/1000 str. + :2.0

Shutoff solenoid

Volt 24

Spread	1
cm3/1000 strokes : 6.0 Check tolerance	Rated speed rpm : 1200 Aneroid pressure
cm3/1000s. : 6.5	+ hPa : 1500
	+ Supply pomp + pressure bar : 8.8
	+ Tolerance bar + : 0.3
FULL-LOAD SPEED REGULATION	+ Shutoff solenoid + Volt : 24
Rated speed rpm : 1250	+ Rated speed rpm : 500
Pressure hPa : 1500	+ Aneroid pressure
Del. quantity cm3/1000 strokes : 80.5	+ hPa : 1500 + Supply pomp
Tolerance	pressure bar : 5.1
cm3/1000 str. +: 3.0	+ Tolerance bar +-: 0.3
Shutoff solenoid Volt : 24	+ Shutoff solenoid + Volt : 24
	1
STARTING FUEL DELIVERY	OVERFLOW QUANTITY
Rated speed rpm : 100	Rated speed rpm : 500
Del. quantity cm3/1000 strokes : 170.0	+ Overflow quantity + ccm/10s : 136.1
Tolerance	Tolerance
cm3/1000 str. + : 30.0	+ ccm/10s + : 16.6
Shutoff solenoid Volt : 24	- Check tolerance
	+ ccm/10s +: 22.2
	+ Shutoff solenoid + Volt : 24
	- vott : 24
	Rated speed rpm : 1200
INJECTION-PUMP TEST SPECIFICATIONS	+ Aneroid pressure + hPa : 1500
TIMING DEVICE CHARACTERISTIC	+ Overflow quantity
Dated and annual 200	+ ccm/10s : 166.6
Rated speed rpm : 800 Aneroid pressure	+ Tolerance + ccm/10s +-: 27.7
hPa : 1500	+
SV travel mm : 0.8	+ Check tolerance + ccm/10s +-: 41.6
Tolerance mm + : 0.4	+ ccm/10s +-: 41.6 + Shutoff solenoid
Check	+ Volt : 24
tolerance mm +: 0.7 Shutoff solenoid	† DELIVERY AND BREAKAWAY CHARACTERISTIC
Volt : 24	T SEELVENT AND BREAKAWAT GHANACTERISTIC
Dated arred may a 4200	Rated speed rpm : 1250
Rated speed rpm : 1200 Aneroid pressure	+ Aneroid pressure + hPa : 1500
hPa : 1500	
	+ Del. quantity
	+ cm3/1000 strokes : 80.5
SV travel mm : 3.3 Tolerance mm +-: 0.4	
SV travel mm : 3.3 Tolerance mm + : 0.4 Check	- cm3/1000 strokes : 80.5 - Tolerance - cm3/1000 str. +- : 3.0 - Check tolerance
SV travel mm : 3.3 Tolerance mm + : 0.4 Check tolerance mm + : 0.4	- cm3/1000 strokes : 80.5 - Tolerance - cm3/1000 str. +- : 3.0 - Check tolerance - cm3/1000s. +- : 4.5
SV travel mm : 3.3 Tolerance mm + : 0.4 Check	- cm3/1000 strokes : 80.5 - Tolerance - cm3/1000 str. +- : 3.0 - Check tolerance
SV travel mm : 3.3 Tolerance mm + : 0.4 Check tolerance mm + : 0.4 Shutoff solenoid	- cm3/1000 strokes : 80.5 - Tolerance - cm3/1000 str. +- : 3.0 - Check tolerance - cm3/1000s. +- : 4.5 - Shutoff solenoid

Aneroid pressure hPa :	1500	Del. quantity
Del. quantity		cm3/1000 strokes : 111.9 Tolerance
cm3/1000 strokes : Check tolerance	7.5	+ cm3/1000 str. +-: 2.5 + Check tolerance
cm3/1000s. +-: Shutoff solenoid	7.5	+ cm3/1000s. +: 4.0 + Shutoff solenoid
Volt :	24	+ Volt : 24
Rated speed rpm : Aneroid pressure	1400	Rated speed rpm : 500 Aneroid pressure
hPa : Del. quantity	1500	+ hPa : 1500
cm3/1000 strokes : Tolerance	1.5	Del. quantity cm3/1000 strokes : 119.4 Tolerance
cm3/1000 str. +-: Check tolerance	1.5	cm3/1000 str. +: 4.5 Check tolerance
cm3/1000s. +-: Shutoff solenoid	1.5	+ cm3/1000s. +-: 6.0 + Shutoff solenoid
Volt :	24	Volt : 24
Rated speed rpm : Aneroid pressure	1320	Rated speed rpm : 1000 Aneroid pressure
hPa : Del. quantity	1500	hPa : 1500 Del. quantity
cm3/1000 strokes : Tolerance	30.0	cm3/1000 strokes : 105.5 Tolerance
cm3/1000 str. + : Check tolerance	15.0	+ cm3/1000 str. + : 0.5 + Check tolerance
cm3/1000s. +-: Shutoff solenoid	15.0	+ cm3/1000s. + : 2.5 + Shutoff solenoid
Volt :	24	Volt : 24
Rated speed rpm : Aneroid pressure	500	
hPa : Del. quantity	500	ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP
cm3/1000 strokes : Tolerance	93.0	+
cm3/1000 str. + : Check tolerance	0.5	+ Rated speed rpm : 300 + Del. quantity + cm3/1000 strokes : 1.5
cm3/1000s. +: Shutoff solenoid	2.5	Tolerance
Volt :	24	- cm3/1000 str. + : 1.5 - Check tolerance
Rated speed rpm :	24 1200	cm3/1000 str. + : 1.5 Ctack tolerance cm3/1000s. + : 1.5 Spread
Rated speed rpm : Aneroid pressure hPa :		cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Spread cm3/1000 strokes : 5.0
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes :	1200	cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +:	1200 1500	cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Spread cm3/1000 strokes: 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm: 300 Del. quantity
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-:	1200 1500 99.3	cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Spread cm3/1000 strokes: 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm: 300 Del. quantity cm3/1000 strokes: 1.5 Tolerance
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance	1200 1500 99.3 2.5	<pre>cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Spread</pre>
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid	1200 1500 99.3 2.5 4.0	cm3/1000 str. + : 1.5 Ctheck tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5

Spread cm3/1000 strokes : 5.0 IDLE DELIVERY Rated speed rpm : 400 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-:1.5 Check tolerance cm3/1000s. 1.5 Shutoff solenoid Volt 24 Rated speed rpm 250 Del. quantity cm3/1000 strokes : 23.0 Tolerance cm3/1000 str. +: 4.0 Check tolerance cm3/1000s. 10.0 Shutoff solenoid 24 Volt START TRANSITION Rated speed rpm 250 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-:30.0 Shutoff solenoid Volt 24 Rated speed rpm 150 Del. quantity cm3/1000 strokes : 170.0 Tolerance cm3/1000 str. + :40.0 Shutoff solenoid Volt 24 ASSEMBLY AND ADJUSTMENT DIMENSIONS

End of test-specification sheet

Dimension K mm +: 0,1 Tolerance mm : 8,4 Dimension KF mm Tolerance mm +-: 0,2 MS1 dimension mm : 1,55 Tolerance mm + : 0,15

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.01.97 Test oil : ISO 4113

Part no. : 0 460 424 154 Pump designation : VE4/12F1000R739

Customer—spec. information
Customer : LIEBHERR
Motor : D 924T-E
Power KW : 116.0

TEST BENCH REQUIREMENTS

Calibrating-oil return

temperature °C : 45
Tolerance °C +-: 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35Tolerance bar \div : 0.05

Test nozzle holde

assembly : 1 688 901 110

Opening pressure

bar : 250 Tolerance bar + : 3

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00
x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 1,8 Outlet : C

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 800
Aneroid pressure
hPa : 1000

iira . 1000

Setting mm : 1.8
Tolerance mm + : 0.2
Shutoff solenoid
Volt : 24

SUPPLY PUMP PRESSURE

Rated speed rpm : 800
Aneroid pressure
hPa : 1000
Supply pomp
pressure bar : 6.7
Tolerance bar +: 0.3
Shutoff solenoid
Volt : 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 800 Aneroid pressure hPa 1000 Del. quantity cm3/1000 strokes : 120.5 Tolerance cm3/1000 str. +-: 0.5 Spread cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 4.5 Shutoff solenoid 24 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 112.5
Tolerance
cm3/1000 str. + : 0.5
Shutoff solenoid
Volt : 24
Check tolerance
cm3/1000S. : 4.5

IDLE SETTING

Rated speed rpm : 350

Del. quantity	+ Shutoff solenoid
cm3/1000 strokes : 29.0 Tolerance	† Volt :
cm3/1000 str. +-: 2.0	TIMING-DEVICE TRAVEL
Shutoff solenoid Volt : 24	+ Rated speed rpm :
Spread	+ Aneroid pressure
cm3/1000 strokes : 6.0 Check tolerance	+ hPa :
cm3/1000s. : 6.5	+ Del. quantity + cm3/1000 strokes :
	Tolerance
	+ cm3/1000 str. +-: + Shutoff solenoid
T	+ Volt :
FULL-LOAD SPEED REGULATION	İ
Rated speed rpm : 1050	INJECTION-PUMP TEST S
Pressure hPa : 1000 Del. quantity	+ TIMING DEVICE CHARACT
cm3/1000 strokes : 95.0	+ TIMING DEVICE CHARACT
Tolerance cm3/1000 str. +-: 2.0	+ Rated speed rpm :
Shutoff solenoid	+ Aneroid pressure + hPa :
Volt : 24	† 34 hannal am
STARTING FUEL DELIVERY	+ SV travel mm : + Tolerance mm +-:
Rated speed rpm : 100	+ Check
Rated speed rpm : 100 Del. quantity	<pre>+ tolerance mm +-: + Shutoff solenoid</pre>
cm3/1000 strokes : 150.0	+ Volt :
Tolerance cm3/1000 str. +-: 20.0	+ Rated speed rpm :
Shutoff solenoid	+ Aneroid pressure
Volt : 24	† hPa :
	SV travel mm :
LOAD-DEPENDENT START OF DELIVERY	+ Tolerance mm +-: + Check
SETTING	→ tolerance mm + :
DELIVERY DIFFERENCE	+ Shutoff solenoid
DELIVER! DIFFERENCE	+ Volt :
Rated speed rpm : 800 Pressure hPa : 1000	SUPPLY PUMP PRESSURE
Pressure hPa : 1000 Del. quantity	+ Rated speed rpm :
cm3/1000 strokes : -25.0	+ Aneroid pressure
Tolerance cm3/1000 str. +-: 1.0	+ hPa : + Supply pomp
Shutoff solenoid	+ pressure bar :
Volt : 24	+ Tolerance bar +-: + Shutoff solenoid
PRESSURE DIFFERENCE	Volt :
Rated speed rpm : 800	Rated speed rpm :
Aneroid pressure	Aneroid pressure
hPa : 1000	+ hPa :

800 1000 -1.40.1 24 SPECIFICATIONS TERISTIC 900 1000 2.9 0.4 0.7 24 700 1000 0.8 0.4 0.7 24 CHARACTERISTIC 1000 1000 8.0 0.3 24 500 1000 Supply pomp pressure bar 4.8 0.3 Tolerance bar

24

DIFFERENCE

Tolerance cm3/1000 str.

Del. quantity cm3/1000 strokes :

-0.2

0.1

Shutoff solenoid Volt	: 24	‡	Check tolerance cm3/1000s. +-:	1.5
OVERFLOW QUANTITY		+	Shutoff solenoid Volt :	24
Rated speed rpm Overflow quantity		Ī	Rated speed rpm : Aneroid pressure	500
ccm/10s Tolerance	: 63.8	+	hPa :	250
ccm/10s +	: 16.6	1	Del. quantity cm3/1000 strokes : Tolerance	119.0
Check tolerance ccm/10s +-	: 22.2	+	cm3/1000 str. + : Check tolerance	0.5
Shutoff solenoid Volt	: 24	‡	cm3/1000s. +-: Shutoff solenoid	4.0
Rated speed rpm	: 1000	· ‡	· Volt :	24
Aneroid pressure	: 1000	† †	Rated speed rpm : Aneroid pressure	
Overflow quantity ccm/10s	: 77.7	‡	hPa : Del. quantity	1000
Tolerance +-	: 27.7	1	cm3/1000 strokes : Tolerance	108.5
Check tolerance		}	cm3/1000 str. + : Check tolerance	2.5
ccm/10s +-	: 41.6	1	cm3/1000s. +-:	4.0
Shutoff solenoid Volt	: 24	Ŧ	Shutoff solenoid Volt :	24
DELIVERY AND BREAK	KAWAY CHARA	CTERISTIC +	Rated speed rpm :	800
Rated speed rpm	: 1050	‡	Del. quantity cm3/1000 strokes :	109.0
Aneroid pressure hPa	: 1000	1	Tolerance cm3/1000 str. +-:	2.5
Del. quantity cm3/1000 strokes		-	Check tolerance cm3/1000s. +-:	
Tolerance		Ŧ	Shutoff solenoid	4.0
cm3/1000 str. +- Check tolerance	: 2.0	‡	Volt :	24
cm3/1000S. +- Shutoff solenoid	: 6.5	<u></u>	Rated speed rpm : Aneroid pressure	500
Volt	: 24	1	hPa : Del. quantity	1000
Rated speed rpm Aneroid pressure	: 1100	1	cm3/1000 strokes : Tolerance	122.0
hPa Del. quantity	: 1000	i I	cm3/1000 str. +-: Check tolerance	2.5
	: 38.0	I	cm3/1000s. +: Shutoff solenoid	4.0
cm3/1000s. +-	: 10.0	+	Volt :	24
Shutoff solenoid Volt	: 24	Ī	Rated speed rpm : Aneroid pressure	800
Rated speed rpm	: 1170	1	hPa :	1000
Aneroid pressure hPa Del. quantity	: 1000	1	Del. quantity cm3/1000 strokes : Tolerance	120.5
cm3/1000 strokes	: 1.5	Ŧ	cm3/1000 str. +-:	0.5
Tolerance cm3/1000 str. +-	: 1.5	‡	Check tolerance cm3/1000s. +-:	3.0

Shutoff solenoid Volt : 24	+ + DELIVERY DIFFERENCE
	+
	+ Rated speed rpm : 800 + Aneroid pressure
ELECTR. SHUTOFF	+ hPa : 1000
CONTROL LEVER, IDLE STOP	+ Del. quantity + cm3/1000 strokes : -31.5
Rated speed rpm : 350	Tolerance
Del. quantity cm3/1000 strokes : 1.5	+ cm3/1000 str. + : 4.0 + Check tolerance
Tolerance	+ cm3/1000s. +: 4.0
cm3/1000 str. + : 1.5 Check tolerance	+ Shutoff solenoid + Volt : 24
cm3/1000s. + : 1.5	+ Volt : 24
Spread cm3/1000 strokes : 5.0	+ TIMING-DEVICE TRAVEL DIFFERENCE
CIBS/1000 Strokes : 3.0	Rated speed rpm : 800
FULL-LOAD STOP CONTROL LEVER	+ Aneroid pressure
Rated speed rpm : 350	+ hPa : 1000 + Del. quantity
Del. quantity	+ cm3/1000 strokes : -1.4
cm3/1000 strokes : 1.5 Tolerance	+ Tolerance + cm3/1600 str. :- : 0.1
cm3/1000 str. ←: 1.5	+ Check tolerance
Spread cm3/1000 strokes : 5.0	+ cm3/1000s. +: 0.1 + Shutoff solenoid
Check tolerance	+ Volt : 24
cm3/1000s. +-: 1.5 Spread	† DELIVERY DIFFERENCE
cm3/1000 strokes : 5.0	+
IDLE DELIVERY	+ Rated speed rpm : 800 + Aneroid pressure
INCE NEGINERA	hPa : 1000
Rated speed rpm : 460 Del. quantity	+ Del. quantity + cm3/1000 strokes : 75.0
cm3/1000 strokes : 1.5	+ Tolerance
Tolerance cm3/1000 str. +-: 1.5	+ cm3/1000 str. +: 3.0
cm3/1000 str. + : 1.5 Check tolerance	+ Check tolerance + cm3/1000s. +-: 3.0
cm3/1000s. +-: 1.5	+ Shutoff solenoid
Shutoff solenoid Volt : 24	+ Volt : 24
	TIMING-DEVICE TRAVEL DIFFERENCE
Rated speed rpm : 275 Del. quantity	Rated speed rpm : 800
cm3/1000 strokes : 59.5	+ Aneroid pressure
Tolerance cm3/1000 str. + : 6.0	hPa : 1000
Check tolerance	+ SV travel mm : -1.7
cm3/1000s. $+:$ 10.0 Shutoff solenoid	+ Tolerance mm +: 1.0 + Check
Volt : 24	tolerance mm +: 1.0
	+ Shutoff solenoid + Volt : 24
	+
	+ START TRANSITION
CHECKING LOAD-DEPENDENT	+
START OF DELIVERY	+ Rated speed rpm : 210

Del. quantity cm3/1000 strokes : 140.0 Tolerance cm3/1000 str. +-: 15.0 Shutoff solenoid Volt 24 Rated speed rpm 150 Del. quantity cm3/1000 strokes : 145.0 Tolerance cm3/1000 str. +-:20.0 Shutoff solenoid Volt 24 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,7 Tolerance mm Dimension KF mm : 6,4 Tolerance mm +: 0,2MS1 dimension mm : 0,85 Tolerance mm + : 0.15CONTROL LEVER POSITION SET Control lever position YA mm : 37,4..40,4 Control lever position YB mm : 39,4..44,6 End of test-specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 04.02.97 Edition : ISO 4113 Test oil

: 0 460 424 158 Part no. Pump designation: VE4/12F1000R754

Customer-spec. information Customer : LIEBHERR : D 924T-E Motor Power KW 100.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C +-:

Overflow

restriction mm

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 110 assembly

Opening pressure

bar Tolerance bar +-:

Test lines : 1 680 750 000

Outside diameter : 6.00

2.00 x inside diameter: x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 1,8 Outlet : C

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 800

Setting mm 1.9 Tolerance mm +-: 0.2 Shutoff solenoid

24 Volt

SUPPLY PUMP PRESSURE

800 Rated speed rpm :

Supply pomp

pressure bar 7.6 Tolerance bar +-: 0.3

Shutoff solenoid

Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 800 Del. quantity

cm3/1000 strokes : 103.0

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 4.0

Shutoff solenoid

24 Volt

IDLE SETTING

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 29.0

Tolerance

cm3/1000 str. +-:2.0

Shutoff solenoid

Volt 24

Spread

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. 6.5

FULL-LOAD SPEED REGULATION

Rated speed rpm 1050

Del. quantity

cm3/1000 strokes : 80.0

Tolerance		
		† Check
cm3/1000 str. +-	: 2.0	tolerance mm + : 0.7
Shutoff solenoid		+ Shutoff sclenoid
Volt	: 24	† Volt : 24
		+
STARTING FUEL DEL	IVERY	+ Rated speed rpm : 700
		+
Rated speed rpm	: 100	+ SV travel mm : 0.9
Del. quantity		† Tolerance mm +-: 0.4
cm3/1000 strokes	: 130.0	+ Check
Tolerance		+ tolerance mm ++: 0.7
cm3/1000 str. +-	: 30.0	† Shutoff solenoid
Shutoff solenoid		† Volt : 24
Volt	: 24	+
		+ SUPPLY PUMP PRESSURE CHARACTERISTIC
		+
		+ Rated speed rpm : 1000
LOAD-DEPENDENT ST.	ART OF DELIVERY	+ Supply pomp
SETTING		pressure bar : 8.9
		† Tolerance bar + : 0.3
DELIVERY DIFFEREN	CE	† Shutoff solenoid
		† Volt : 24
Rated speed rpm	: 800	+
Del. quantity		+ Rated speed rpm : 500
cm3/1000 strokes	: -25.0	+ Supply pomp
Tolerance		pressure bar : 5.7
cm3/1000 str. +-	: 1.0	+ Tolerance bar + : 0.3
Shutoff solenoid	0.4	+ Shutoff solenoid
Volt	: 24	+ Volt : 24
	0.5	OVERSION OVERSION
PRESSURE DIFFEREN	CE	OVERFLOW QUANTITY
Datad speed spe	: 800	Detail aread one 1000
Rated speed rpm Del. quantity	: 800	Rated speed rpm : 1000
cm3/1000 strokes	: -0.2	+ Overflow quantity + ccm/10s : 77.7
Tolerance	: -0.2	
- cm3/1000 c+r	. 01	+ Tolerance
cm3/1000 str. +-	: 0.1	
Shutoff solenoid		Tolerance + : 27.7
	: 0.1 : 24	Tolerance ccm/10s +: 27.7 Check tolerance
Shutoff solenoid Volt	: 24	Tolerance ccm/10s + : 27.7 Check tolerance ccm/10s + : 41.6
Shutoff solenoid	: 24	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid
Shutoff solenoid Volt TIMING-DEVICE TRA	: 24 VEL DIFFERENCE	Tolerance + ccm/10s + : 27.7 - Check tolerance + ccm/10s + : 41.6
Shutoff solenoid Volt TIMING-DEVICE TRA Rated speed rpm	: 24 VEL DIFFERENCE	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 24
Shutoff solenoid Volt TIMING-DEVICE TRA Rated speed rpm Del. quantity	: 24 VEL DIFFERENCE : 800	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500
Shutoff solenoid Volt TIMING-DEVICE TRAN Rated speed rpm Del. quantity cm3/1000 strokes	: 24 VEL DIFFERENCE : 800	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +-: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity
Shutoff solenoid Volt TIMING-DEVICE TRAN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 24 VEL DIFFERENCE : 800 : -1.5	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 63.8
Shutoff solenoid Volt TIMING-DEVICE TRAY Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +-	: 24 VEL DIFFERENCE : 800 : -1.5	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 63.8 Tolerance
Shutoff solenoid Volt TIMING-DEVICE TRAN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 24 VEL DIFFERENCE : 800 : -1.5	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 63.8 Tolerance
Shutoff solenoid Volt TIMING-DEVICE TRAY Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid	: 24 VEL DIFFERENCE : 800 : -1.5 : 0.1	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 63.8 Tolerance
Shutoff solenoid Volt TIMING-DEVICE TRAY Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid	: 24 VEL DIFFERENCE : 800 : -1.5 : 0.1	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s +: 16.6
Shutoff solenoid Volt TIMING-DEVICE TRAY Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid	: 24 VEL DIFFERENCE : 800 : -1.5 : 0.1 : 24	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s +: 16.6 Check tolerance ccm/10s +: 22.2 Shutoff solenoid
Shutoff solenoid Volt TIMING-DEVICE TRAINER Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt	: 24 VEL DIFFERENCE : 800 : -1.5 : 0.1 : 24 ST SPECIFICATIONS	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s +: 16.6 Check tolerance ccm/10s +: 22.2
Shutoff solenoid Volt TIMING-DEVICE TRAY Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt	: 24 VEL DIFFERENCE : 800 : -1.5 : 0.1 : 24 ST SPECIFICATIONS	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s +: 16.6 Check tolerance ccm/10s +: 22.2 Shutoff solenoid Volt : 24
Shutoff solenoid Volt TIMING-DEVICE TRATER Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt TIMING DEVICE CHAIRMAN TEST TIMING DEVICE CHAIRMAN TEST TO THE TEST T	: 24 VEL DIFFERENCE : 800 : -1.5 : 0.1 : 24 ST SPECIFICATIONS RACTERISTIC	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s +: 16.6 Check tolerance ccm/10s +: 22.2 Shutoff solenoid
Shutoff solenoid Volt TIMING-DEVICE TRAINER Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt	: 24 VEL DIFFERENCE : 800 : -1.5 : 0.1 : 24 ST SPECIFICATIONS RACTERISTIC	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s +: 16.6 Check tolerance ccm/10s +: 22.2 Shutoff solenoid Volt : 24 DELIVERY AND BREAKAWAY CHARACTERISTIC
Shutoff solenoid Volt TIMING-DEVICE TRAY Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt TIMING DEVICE CHAR Rated speed rpm	: 24 VEL DIFFERENCE : 800 : -1.5 : 0.1 : 24 ST SPECIFICATIONS RACTERISTIC : 900	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s +: 16.6 Check tolerance ccm/10s +: 22.2 Shutoff solenoid Volt : 24 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1050
Shutoff solenoid Volt TIMING-DEVICE TRAN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt INJECTION-PUMP TES TIMING DEVICE CHAR Rated speed rpm SV travel mm	: 24 VEL DIFFERENCE : 800 : -1.5 : 0.1 : 24 ST SPECIFICATIONS RACTERISTIC : 900 : 3.0	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s +: 16.6 Check tolerance ccm/10s +: 22.2 Shutoff solenoid Volt : 24 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1050 Del. quantity
Shutoff solenoid Volt TIMING-DEVICE TRAY Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt TIMING DEVICE CHAR Rated speed rpm	: 24 VEL DIFFERENCE : 800 : -1.5 : 0.1 : 24 ST SPECIFICATIONS RACTERISTIC : 900 : 3.0	Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s +: 16.6 Check tolerance ccm/10s +: 22.2 Shutoff solenoid Volt : 24 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1050

Tolerance			t	Datad anded ann		350
cm3/1000 str. +-		2.0	I	Rated speed rpm Del. quantity	:	330
Check tolerance	•	2.0	T	cm3/1000 strokes		1.5
cm3/1000s. +-		6.5	Ţ		•	1.5
	•	0.5	Ť	Tolerance		4 5
Shutoff solenoid		2.	†	cm3/1000 str. +	- ;	1.5
Volt	:	24	t	Check tolerance		
			+	cm3/1000s. +	• :	1.5
Rated speed rpm	:	1090	+	Spread		
Del. quantity			+	cm3/1000 strokes	:	5.0
cm3/1000 strokes	:	38.0	1			
Check tolerance			1	FULL-LOAD STOP CO	NTROL	LEVER
cm3/1000s. +-	:	10.0	1			
Shutoff solenoid			1	Rated speed rpm	:	350
Volt	•	24	1	Del. quantity	•	
1011	•	6 . T	1	cm3/1000 strokes		1.5
Rated speed rpm	:	1150	I	Tolerance	•	1.5
Del. quantity	•	1150	· T	cm3/1000 str. +		1.5
cm3/1000 strokes		1.5	Ţ		•	1.3
Tolerance	•	1.5	Ţ	Spread	_	r 0
		4 5	T	cm3/1000 strokes		5.0
cm3/1909 str. +	:	1.5	Ť	Check tolerance		4 =
Check tolerance		4 =	†		- :	1.5
cm3/1000s. +-	:	1.5	†	Spread		
Shutoff solenoid		•	†	cm3/1000 strokes	:	5.0
Volt	:	24	t			
			+	IDLE DELIVERY		
Rated speed rpm	:	1000	+			
Del. quantity			+	Rated speed rpm	:	460
cm3/1000 strokes	:	95.5	+	Del. quantity		
Tolerance			+	cm3/1000 strokes	:	1.5
cm3/1000 str. +-	:	2.5	+	Tolerance		
Check tolerance			+	cm3/1000 str. +	• :	1.5
cm3/1000s. +-	:	4.0	+	Check tolerance		
Shutoff solenoid			+	cm3/1000s. +	· :	1.5
Volt	:	24	+	Shutoff solenoid		
			+	Volt	:	24
Rated speed rpm	:	500	+			
Del. quantity			+	Rated speed rpm	:	275
cm3/1000 strokes	:	103.5	+	Del. quantity		
Tolerance			+	cm3/1000 strokes	:	59.5
cm3/1000 str. +	:	2.5	1	Tolerance		
Check tolerance			<u> </u>	cm3/1000 str. +	· :	6.0
cm3/1000s. +-	:	4.0	1	Check tolerance	•	
Shutoff solenoid	•		1	cm3/1000s. +-	. :	10.0
Volt	:	24	1	Shutoff solenoid		
	-		1	Volt	:	24
Rated speed rpm	:	800	1	· · · ·	•	The I
Del. quantity	•		1			
cm3/1000 strokes	•	103.0	1			
Tolerance	•	100.0	1			
cm3/1000 str. +	•	0.5	1			
Check tolerance	•	0.5		CHECKING LOAD-DEF	ENDEN.	т
cm3/1000s. +-		3.0	I	START OF DELIVERY		ı
Shutoff solenoid	•	5.0	Ţ	START OF DELIVERS		
Volt		24	I	DELIVERY DIFFEREN	ICE	
VOCE	•	24	T	DELIVER! DIFFEREN	ICE	
			Ť	Dated aread are		800
				Rated speed rpm	:	000
ELECTO CULTOFF			†	Del. quantity	•	_70 o
ELECTR. SHUTOFF	E 07	rop.	†	cm3/1000 strokes	÷	-30.8
CONTROL LEVER, IDL	.c 3		†	Tolerance		/. n
			+	cm3/1000 str. +	• ;	4.0

Check tolerance cm3/1000s. +- Shutoff solenoid Volt	:	4.0 24
TIMING-DEVICE TRA		
Rated speed rpm	:	008
Del. quantity cm3/1000 strokes	:	-1.5
Tolerance cm3/1000 str. +- Check tolerance	:	0.1
cm3/1000s. +- Shutoff solenoid	:	0.1
Volt	:	24
DELIVERY DIFFEREN	CE	
Rated speed rpm Del. quantity	:	800
cm3/1000 strokes Tolerance	:	60.0
cm3/1000 str. +- Check tolerance	:	3.0
cm3/1000s. +-	:	3.0
Shutoff solenoid Volt	:	24
TIMING-DEVICE TRA	VEL	DIFFERENCE
Rated speed rpm	:	800
SV travel mm Tolerance mm +- Check	:	-1.9 1.0
tolerance mm +- Shutoff solenoid	:	1.0
Volt	:	24
START TRANSITION		
Rated speed rpm	:	230
Del. quantity cm3/1000 strokes	:	230 110.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +-		
Del. quantity cm3/1000 strokes Tolerance	:	110.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Shutoff solenoid Volt Rated speed rpm	:	110.0 15.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes	•	110.0 15.0 24
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Shutoff solenoid Volt Rated speed rpm Del. quantity	•	110.0 15.0 24 130

24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7
Tolerance mm + : 0,1
Dimension KF mm : 6,4
Tolerance mm + : 0,2
MS1 dimension mm : 0,85
Tolerance mm + : 0,15

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 37,4..40,4

Control lever

position YB mm : 39,1..44,1

End of test-specification sheet

Volt

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 20.02.97 Test oil : ISO 4113

: 0 460 426 220 Part no. Pump designation : VE6/12F1150R534

Customer-spec. information

Customer : MWM : TD 226-B6 Motor

Power KW 92.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance *C +-:

Overflow

restriction mm : **D.75**

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

: 1 688 901 110 assembly

Opening pressure

bar 250 Tolerance bar + : 3

: 1 680 750 000 Test lines

6.00 Outside diameter :

x inside diameter: 2.00 840 x length mm :

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,18

Outlet | : C

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 700

Setting mm 2.3 Tolerance mm + : 0.2 Shutoff solenoid Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 700

Supply pomp

pressure bar 5.9 Tolerance bar +-: 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

800 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 88.0

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 4.0

Shutoff solenoid

Volt 12

IDLE SETTING

325 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 str. + :3.0

Shutoff solenoid

Volt 12

Spread

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. 6.5

FULL-LOAD SPEED REGULATION

Rated speed rpm 1200

Del. quantity

cm3/1000 strokes : 55.0

Tolerance cm3/1000 str. +-: 0.5	+ Rated speed rpm : 1050 + Overflow quantity
Shutoff solenoid Volt : 12	ccm/10s : 138.8 Tolerance
	ccm/10s + : 27.7
SET GRADUATED STARTING DELIVERY CONTROL LEVER, IDLE STOP	Check tolerance + ccm/10s + : 41.6
Rated speed rpm : 100	+ Shutoff solenoid + Volt : 12
Del. quantity cm3/1000 strokes : 90.0	Rated speed rpm : 500
Tolerance cm3/1000 str. +-: 1.0	Overflow quantity ccm/10s : 125.0
Shutoff solenoid Volt : 12	Tolerance + : 16.6
	+
	+ Check tolerance + ccm/10s + : 22.2 + Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATIONS	+ Volt : 12
TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm : 800	Rated speed rpm : 1200 Del. quantity
SV travel mm : 3.6 Tolerance mm +-: 0.4	cm3/1000 strokes : 55.0 Tolerance
Check tolerance mm +-: 0.7	cm3/1000 str. +: 0.5 Check tolerance
Shutoff solenoid	+ cm3/1000s: 3.0
	+ Shutoff solenoid + Volt : 12
Rated speed rpm : 600	Rated speed rpm : 1270
SV travel mm : 0.7 Tolerance mm +-: 0.4	+ Del. quantity + cm3/1000 strokes : 7.5
Check tolerance mm + : 0.7	+ Check tolerance + cm3/1000S. + : 7.5
Shutoff solenoid Volt : 12	+ Shutoff solenoid + Volt : 12
SUPPLY PUMP PRESSURE CHARACTERISTIC	Rated speed rpm : 1300
Rated speed rpm : 1050	Del. quantity cm3/1000 strokes : 1.5 Tolerance
Supply pomp pressure bar : 8.0	+ cm3/1000 str. + : 1.5
Tolerance bar +: 0.3 Shutoff solenoid	+ Check tolerance - cm3/1000s. + : 1.5
Volt : 12	+ Shutoff solenoid + Volt : 12
Rated speed rpm : 500 Supply pomp	Rated speed rpm : 1220
pressure bar : 4.6 Tolerance bar +: 0.3	Del. quantity cm3/1000 strokes : 30.0
Shutoff solenoid Volt : 12	Tolerance + cm3/1000 str. +-: 15.0
OVERFLOW QUANTITY	- Check tolerance - cm3/1000s. + : 15.0
	+

Shutoff solenoid		+				
Volt	: 12	1				
		1	ELECTR. SHUTOFF			
Rated speed rpm	: 1050	1	CONTROL LEVER, ID	IF ST	'NP	
Del. quantity	1 1030	1	CONTROL LEVERY 10	LL 01	O1	
cm3/1000 strokes	: 82.1	1	Rated speed rpm	•	325	
Tolerance	. 02.1	I	Del. quantity	•	363	
cm3/1000 str. +-	: 1.5	T			1.5	
	. 1.5	Ť	cm3/1000 strokes	:	1.5	
Check tolerance	. 7.0	†	Tolerance		4 5	
cm3/1000s. +-	: 3.0	†	cm3/1000 str. +-		1.5	
Shutoff solenoid	4.0	†	Check tolerance			
Volt	: 12	†	cm3/1000s. +-	:	1.5	
		†	Spread			
	: 600	+	cm3/1000 strokes	:	5.0	
Del. quantity		+				
cm3/1000 strokes	: 92.3	. +	FULL-LOAD STOP CO	NTROL	LEVER	
Tolerance		+				
cm3/1000 str. +-	: 3.0	+	Rated speed rpm	:	325	
Check tolerance		+	Del. quantity			
cm3/1000s. +-	: 4.0	+	cm3/1000 strokes	:	1.5	
Shutoff solenoid		1	Tolerance			
Volt	: 12	+	cm3/1000 str. +-	:	1.5	
- + +	-		Spread	•		
Rated speed rpm	: 500	+	cm3/1000 strokes	:	5.0	
Del. quantity		1	Check tolerance	•	2.0	
cm3/1000 strokes	: 88.6	<u> </u>	cm3/1000s. +-		1.5	
Tolerance		1	Spread	•		
cm3/1000 str. +-	: 3.0	1	cm3/1000 strokes		5.0	
Check tolerance	• • • • • • • • • • • • • • • • • • • •	1		•	5.0	
cm3/1000s. +-	: 4.0	1	IDLE DELIVERY			
Shutofi solenoid	. 4.0	1	IDEE DEELVER!			
Volt	: 12	I	Rated speed rpm	:	375	
VOCE		\mathbf{I}	Del. quantity	•	313	
Rated speed rpm	: 800	I	cm3/1000 strokes		1.5	
Del. quantity	. 000	Ţ	Tolerance	•	1.5	
cm3/1000 strokes	: 88.C	T	cm3/1000 str. +-		1.5	
Tolerance	, 00.0	T	Check tolerance	•	1.0	
cm3/1000 str. +-	: 0.5	T	cm3/1000s. +-		1.5	
Check tolerance	. 0.5	Ţ		•	1.3	
	. 25	T	Shutoff solenoid		40	
cm3/1000s. +-	: 2.5	T	Volt	•	12	
Shutoff solenoid	: 12	T				
Volt	. 12	Ť				
MECHANICAL SHUTOFF		Ī				
MECHANICAL SUCIOFF		T				
Patrad speed res	: 1050	T	START TRANSITION			
time of the time to the time	. 1000	Ţ	START TRANSTITUN			
Del. quantity cm3/1000 strokes	: 1.5	T	Dated aread are		250	
	. 1.0	Ţ	Rated speed rpm	:	230	
Tolerance	. 15	Ť	Del. quantity		05.0	
cm3/1000 str. +-	: 1.5	†	cm3/1000 strokes	•	95.0	
Spread	: 5.0	Ť	Tolerance		20.0	
cm3/1000 strokes	. 5.0	†	cm3/1000 str. +-	•	20.0	
Check tolerance	. 45	†	Shutoff solenoid		10	
cm3/1000s. +-	: 1.5	†	Volt	:	12	
Spread	. 50	†				
cm3/1000 strokes	: 5.0	†	Dakad amirad am		470	
Shutoff solenoid	. 40	†	Rated speed rpm	:	160	
Volt	: 12	†	Del. quantity		425.0	
		+	cm3/1000 strokes	:	125.0	

Tolerance

cm3/1000 str. + : 10.0

Shutoff solenoid

Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,6
Tolerance mm + : 0,1
Dimension KF mm : 6,4
Tolerance mm + : 0,2
MS1 dimension mm : 1,35
Tolerance mm + : 0,15

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.02.97 Test oil : ISO 4113

Part no. : 0 460 426 266 Pump designation : VE6/12F1100R730-1

Customer—spec. information Customer : NH Motor : M135 Power KW : 98.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return
temperature °C :
Tolerance °C +-:

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35
Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 110

Opening pressure

bar : 25G Tolerance bar + : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 1,0

Tolerance mm +: 0.02(0.06)

Outlet : B

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 900

Aneroid pressure

hPa : 1500

Setting mm : 2.8
Tolerance mm +-: 0.2
Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 900

Aneroid pressure

hPa : 1500

Subbly bomb

pressure bar : 6.7
Tolerance bar + : 0.3

Shutoff solenoid

Volt : 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 700

Aneroid pressure hPa : 1500

Del. quantity

cm3/1000 strokes : 90.0

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 5.0

Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 81.0

Tolerance

cm3/1000 str. + : 0.5

Shutoff solenoid

Volt : 12

Check tolerance

cm3/1000s. : 5.0

IDLE SETTING

Rated speed rpm Del. quantity	: 375	+ Tolerance mm ++: 0.5 + Check	
cm3/1000 strokes	: 15.0	tolerance mm + : 0.7 Shutoff solenoid	
cm3/1000 str. +- Shutoff solenoid	: 2.0	Volt : 12	
Volt Spread	: 12	SUPPLY PUMP PRESSURE CHARACTERISTIC	
cm3/1000 strokes Check tolerance	: 5.0	Rated speed rpm : 1100 Aneroid pressure	
cm3/1000s.	: 5.0	+ hPa : 1500 + Supply pomp	
		+ pressure bar : 7.7 + Tolerance bar + : 0.5	
FULL-LOAD SPEED RI	EGUI ATTON	Shutoff solenoid Volt : 12	
		1	
Rated speed rpm Pressure hPa	: 1180 : 1500	Rated speed rpm : 500 Aneroid pressure	
Del. quanticy cm3/1000 strokes	: 48.5	hPa : 1500 + Supply pomp	
Tolerance		pressure bar : 4.7	
cm3/1000 str. +	: 2.0	Tolerance bar +: 0.5	
Shutoff solenoid		- Shutoff solenoid	
Volt	: 12	- Volt : 12	
STARTING FUEL DEL	IVERY	OVERFLOW QUANTITY	
Rated speed rpm Del. quantity	: 100	Rated speed rpm : 1100 Aneroid pressure	
cm3/1000 strokes Tolerance	: 110.0	hPa : 1500 Overflow quantity	
cm3/1000 str. +- Shutoff solenoid	: 30.0	ccm/10s : 130.5 Tolerance	
Volt	: 12	- ccm/10s +-: 27.7	
		T Check tolerance	
		+ Shutoff solenoid + Volt : 12	
INJECTION-PUMP TES	ST SPECIFICATIONS	T vott . 12	
TIMING DEVICE CHAP	RACTERISTIC	+ Rated speed rpm : 500 - Aneroid pressure	
	4400	hPa : 1500	
Rated speed rpm Aneroid pressure	: 1100	Overflow quantity : 97.2	
hPa	: 1500	+ Tolerance + ccm/10s +-: 16.6	
SV travel mm	: 3.8	+	
Tolerance mm +-	: 0.5	Check tolerance	
Check		+ ccm/10s +: 16.6	
tolerance mm +-	: 0.7	Shutoff solenoid	
Shutoff solenoid	4.5	+ Volt : 12	
Volt	: 12	DELIVEDY AND EDEALARIAY CHADACTERTOTT	_
Dated speed spe	: 700	DELIVERY AND BREAKAWAY CHARACTERISTI	L
Rated speed rpm Aneroid pressure	. 100	Rated speed rpm : 1180	
hPa	: 1500	Aneroid pressure hPa : 1500	
SV travel mm	: 1.7	1	

SV travel mm : 1.7

Del. quantity	40.5	+ Rated speed rpm : 500
cm3/1000 strokes : Tolerance	: 48.5	+ Aneroid pressure + hPa : 1500
cm3/1000 str. +- :	2.0	+ Del. quantity
Check tolerance cm3/1000s. +-:	8.0	+ cm3/1000 strokes : 103.0 + Tolerance
Shutoff solenoid		cm3/1000 str. + : 4.0
Volt	: 12	+ Check tolerance + cm3/1000s. +-: 5.0
Rated speed rpm	: 1150	+ cm3/1000s. +-: 5.0 + Shutoff solenoid
Aneroid pressure	4500	+ Volt : 12
hPa : Del. quantity	: 1500	† Rated speed rpm : 700
cm3/1000 strokes	68.0	+ Aneroid pressure
Tolerance cm3/1000 str. +-:	8.0	+ hPa : 1500
Check tolerance	0.0	<pre>pel. quantity cm3/1000 strokes : 90.0</pre>
cm3/1000s. +:	8.0	† Tolerance
Shutoff solenoid Volt	: 12	+ cm3/1000 str. +-: 0.5 + Check tolerance
		+ cm3/1000s. $+$: 3.0
Rated speed rpm :	: 1220	+ Shutoff solenoid
Aneroid pressure hPa	1500	† Volt : 12
Del. quantity		+
cm3/1000 strokes : Tolerance	: 1.5	+ ELECTR. SHUTOFF
cm3/1000 str. +-:	1.5	CONTROL LEVER, IDLE STOP
Check tolerance	. 15	Potest aread area 775
cm3/1000S. $+$: Shutoff solenoid	1.5	+ Rated speed rpm : 375 + Del. quantity
Volt :	: 12	+ cm3/1000 strokes : 1.5
Rated speed rpm :	650	+ Tolerance + cm3/1000 str. + : 1.5
Aneroid pressure		+ Check tolerance
hPa	600	+ cm3/1000s. + : 1.5
LDA/		+ Spread + cm3/1000 strokes : 5.0
HBA stroke mm :	4.0	+
Del. quantity cm3/1000 strokes :	91.5	FULL-LOAD STOP CONTROL LEVER
Tolerance		Rated speed rpm : 375
cm3/1000 str. +-: Check tolerance	0.5	<pre>pel. quantity cm3/1000 strokes : 1.5</pre>
cm3/1000s. +-:	4.0	+ Tolerance
Shutoff solenoid	. 43	cm3/1000 str. +: 1.5
Volt :	12	-+ Spre∂d -+ cm3/1000 strokes : 5.0
Rated speed rpm :	1100	+ Check tolerance
Aneroid pressure hPa :	1500	+ cm3/1000s. +-: 1.5 + Spread
Del. quantity	1500	cm3/1000 strokes : 5.0
cm3/1000 strokes :	77.0	+
Tolerance cm3/1000 str. +-:	2.5	+ IDLE DELIVERY
Check tolerance		Rated speed rpm : 450
cm3/1000s. +: Shutoff solenoid	3.5	<pre>+ Del. quantity + cm3/1000 strokes : 1.5</pre>
Volt :	12	† Tolerance
		+ cm3/1000 str. +-: 1.5

Check tolerance cm3/1000s. 1.5 Shutoff solenoid 12 Volt START TRANSITION Rated speed rpm : 230 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 str. +-:10.0 Shutoff solenoid Volt 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ 4.0 HBA stroke mm : 3,7 Dimension K mm Tolerance mm +-: 0,1 Dimension KF mm : 6,4 + : 0,2 Tolerance mm : 1,4 Dimension MS mm Tolerance mm CONTROL LEVER POSITION SET Control lever position YA mm : 32,8..34,8 Control lever position YB mm : 41,2..47,8 End of test-specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS
Note remarks
Refer to Service Info for test and adjustment instructions. See microcard(s) W400/
Edition : 03.03.97 Test oil : ISO 4113
Part no. : 0 460 426 234 Pump designation : VE6/12F1100R582
Customer-spec. information Customer : CASE Motor : 6T-590
TEST BENCH REQUIREMENTS
Calibrating-oil return temperature °C : 45 Tolerance °C +-: 1
Overflow restriction mm : 0.55
<pre>Inlet press. bar : 0.35 Tolerance bar +- : 0.05</pre>
Test nozzle holde assembly : 1 688 901 027
Opening pressure : 250 Tolerance bar +- : 3
Test lines : 1 680 750 000
Outside diameter : 6.00
x inside diameter: 2.00 x length mm : 840

Plunger stroke mm: 1,5 Tolerance mm +-: 0.02(0.06)**Outlet** Prestroke (as of UT) mm : 0,3 Tolerance mm +-: 0,02 Check tolerance mm +-: 0,04 INJECTION PUMP SETTING VALUES TIMING DEVICE TRAVEL Rated speed rpm : 750 3.2 Setting mm Tolerance mm +-: 0.2 Shutoff solenoid Volt 24 SUPPLY PUMP PRESSURE Rated speed rpm : 750 Supply pomp pressure bar 3.9 Tolerance bar + : 0.3 Shutoff solenoid Volt 24 FULL-LOAD DELIV. WITHOUT BOOST PRESSURE Rated speed rpm 900 Del. quantity cm3/1000 strokes : 70.5 Tolerance cm3/1000 str. +-:0.5 Spread cm3/1000 strokes : 4.0 Shutoff solenoid Volt 24 IDLE SETTING 425 Rated speed rpm Del. quantity cm3/1000 strokes : 7.0 Tolerance cm3/1000 str. + :3.0 Shutoff solenoid Volt

24

5.5

7.0

Spread

cm3/1000 strokes :

Check tolerance cm3/1000s.

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

FULL-LOAD SPEED REGULATION	+ Shutoff solenoid + Volt : 24
Rated speed rpm : 1160 Del. quantity	OVERFLOW QUANTITY
cm3/1000 strokes : 54.0 Tolerance	Rated speed rpm : 1000 Overflow quantity
cm3/1000 str. +: 3.0 Shutoff solenoid	ccm/10s : 69.4 Tolerance
Volt : 24	ccm/10s +-: 27.7
STARTING FUEL DELIVERY	Check tolerance ccm/10s +: 41.6
Rated speed rpm : 100 Del. quantity	Shutoff solenoid Volt : 24
cm3/1000 strokes : 85.0 Tolerance	Rated speed rpm : 500
cm3/1000 str. +-: 30.0 Shutoff solenoid	Overflow quantity ccm/10s : 55.5
Volt : 24	Tolerance + : 16.6
	Check tolerance
	ccm/10s + : 22.2 Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATIONS	Volt : 24
TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
Reted speed rpm : 1000	Rated speed rpm : 1160 Del. quantity
SV travel mm : 5.0 Tolerance mm +-: 0.4	- cm3/1000 strokes : 54.0 Tolerance
Check tolerance mm + : 0.7	+ cm3/1000 str. + : 3.0 Check tolerance
Shuroff solenoid Volt : 24	+ cin3/1000s. + : 6.0 + Shutoff solenoid
Rated speed rpm : 500	Volt : 24
SV travel min : 1.7	Rated speed rpm : 1200 Del. quantity
Tolerance mm + : 0.4 Check	+ cm3/1000 strokes : 30.0 + Check tolerance
tolerance mm +-: 0.7 Shutoff solenoid	+ cm3/1000s. +: 10.0 + Shutoff solenoid
Volt : 24	Volt : 24
SUPPLY PUMP PRESSURE CHARACTERISTIC	Rated speed rpm : 1250 Del. quantity
Rated speed rpm : 1000 Supply pomp	+ cm3/1000 strokes : 1.5 + Tolerance
pressure bar : 4.9 Tolerance bar + : 0.3	cm3/1000 str. + : 1.5 Check tolerance
Shutoff solenoid Volt : 24	cm3/1000s. +: 1.5 Shutoff solenoid
	Volt : 24
Supply pomp	Rated speed rpm : 1000
pressure bar : 3.0 Tolerance bar + : 0.3	+ Del. quantity + cm3/1000 strokes : 70.0

Tolerance	→ Shutoff solenoid
cm3/1000 str. +-: 1.5	+ Volt : 24
Check tolerance	1
=	T
	†
Shutoff solenoid	†
Volt : 24	†
	+
Rated speed rpm : 750	1
Del. quantity	→ START TRANSITION
cm3/1000 strokes : 73.0	1
Tolerance	Rated speed rpm : 350
	+ Del. quantity
Check tolerance	+ cm3/1000 strokes : 58.0
cm3/1000s. +-: 3.5	+ Tolerance
Shutoff solenoid	+ cm3/1000 str. $+-$: 15.0
Volt : 24	+ Shutoff solenoid
	+ Volt : 24
Rated speed rpm : 500	
Del. quantity	1
cm3/1000 strokes : 36.5	Rated speed rpm : 130
Tolerance	Del. quantity
cm3/1000 str. +: 4.0	
Check tolerance	+ Tolerance
cm3/1000s. + : 6.0	+ cm3/1000 str. + : 30.0
Shutoff solenoid	+ Shutoff solenoid
Volt : 24	† Volt : 24
	+
Rated speed rpm : 900	-
Del. quantity	ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes : 70.5	1
Tolerance	Dimension KF mm : 5,2
Tolerance cm3/1000 str. +-: 0.5	Dimension KF mm : 5,2 Tolerance mm + : 0,2
cm3/1000 str. +-: 0.5	+ Tolerance mm + : 0,2
cm3/1000 str. +-: 0.5 Check tolerance	Tolerance mm + : 0,2 MS1 dimension mm : 1,4
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid	Tolerance mm + : 0,2 MS1 dimension mm : 1,4
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP	Toterance mm + : 0,2 MS1 dimension mm : 1,4 Toterance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 425	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET Control lever
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 425 Del. quantity	Toterance mm + : 0,2 MS1 dimension mm : 1,4 Toterance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 425	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET Control lever
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 425 Del. quantity	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET Control lever
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 425 Del. quantity cm3/1000 strokes : 1.5	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET Control lever position YA mm : 34,838,8
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 425 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET Control lever position YA mm : 34,838,8 Control lever
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 425 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET Control lever position YA mm : 34,838,8 Control lever
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 425 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET Control lever position YA mm : 34,838,8 Control lever
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 425 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET Control lever position YA mm : 34,838,8 Control lever
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cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 425 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET Control lever position YA mm : 34,838,8 Control lever
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 425 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 IDLE DELIVERY	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET Control lever position YA mm : 34,838,8 Control lever position YB mm : 37,943,1
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 425 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 IDLE DELIVERY Rated speed rpm : 550	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET Control lever position YA mm : 34,838,8 Control lever position YB mm : 37,943,1
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 425 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 IDLE DELIVERY Rated speed rpm : 550 Del. quantity	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET Control lever position YA mm : 34,838,8 Control lever position YB mm : 37,943,1
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Cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 425 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 IDLE DELIVERY Rated speed rpm : 550 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET Control lever position YA mm : 34,838,8 Control lever position YB mm : 37,943,1
cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 24 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 425 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 IDLE DELIVERY Rated speed rpm : 550 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5	Tolerance mm + : 0,2 MS1 dimension mm : 1,4 Tolerance mm + : 0,1 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET Control lever position YA mm : 34,838,8 Control lever position YB mm : 37,943,1

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.02.97 Test oil : ISO 4113

Part no. : 0 460 426 262 Pump designation : VE6/12F1100R729

Customer-spec. information

Customer

: NH

Motor : EP040R-M115 Power KW : 89.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C +- : 1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35
Tolerance bar +-: 0.05

Test nozzle holde

assembly : 1 688 901 110

Opening pressure

bar : 250 Tolerance bar +- : 3

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x Length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,0

Tolerance mm + : 0.02(0.06)

Outlet : B

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 700

Setting mm : 1.7 Tolerance mm +-: 0.2

Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 700
Supply pomp
pressure bar : 6.0
Tolerance bar +-: 0.3
Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 600
Rated speed rpm : 300
Del. quantity
cm3/1000 strokes : 66.5
Del. quantity

cm3/1000 strokes : 70.0 Tolerance

cm3/1000 str. + :

Tolerance cm3/1000 str. +-: 0.5

Spread cm3/1000 strokes : 5.0

Shutoff solenoid

Volt : 12

Shutoff solenoid

Volt : 12

IDLE SETTING

Rated speed rpm : 375

Del. quantity cm3/1000 strokes :

15.0

0.5

Tolerance

cm3/1000 str. + : 0.5 Shutoff solenoid

Val+

Volt : 12

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 5.0

FULL-LOAD SPEED R	FGIII ATTON	Tolerance bar + : 0.5 Shutoff solenoid Volt : 12
FOLL EDAD SPELLD K	EGOLATION	1
Rated speed rpm Del. quantity		OVERFLOW QUANTITY
cm3/1000 strokes Tolerance	: 33.0	Rated speed rpm : 1100 Overflow quantity
cm3/1000 str. +- Shutoff solenoid	: 2.0	ccm/10s : 127.7 Tolerance
Volt	: 12	ccm/10s +: 27.7
STARTING FUEL DEL	IVERY	Check tolerance + : 27.7
Rated speed rpm Del. quantity	: 100	Shutoff solenoid Volt : 12
cm3/1000 strokes Tolerance	: 80.0	Rated speed rpm : 475
cm3/1000 str. +- Shutoff solenoid	: 20.0	Overflow quantity ccm/10s : 105.5
Volt	: 12	Tolerance + : 16.6
		+
		Check tolerance ccm/10s +: 16.6
INJECTION-PUMP TE	ST SPECIFICATIONS	Shutoff solenoid Volt : 12
TIMING DEVICE CHA	RACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm	: 850	Rated speed rpm : 1180 Del. quantity
SV travel mm Tolerance mm +-	: 2.3 : 0.6	cm3/1000 strokes : 33.0
Check tolerance mm +-	0.7	- cm3/1000 str. + : 2.0 Check tolerance
Shutoff solenoid Volt	: 12	cm3/1000s. +-: 8.0 Shutoff solenoid
Rated speed rpm	: 500	Volt : 12
SV travel mm	: 0.9	Rated speed rpm : 1750 Del. quantity
Tolerance mm +-	: 0.6	cm3/1000 strokes : 54.0
tolerance mm +- Shutoff solenoid	: 0.7	cm3/1000 str. +-: 8.0 Check tolerance
Volt	: 12	cm3/1000s. +-: 8.0 Shutoff solenoid
SUPPLY PUMP PRESSE	JRE CHARACTERISTIC	Volt : 12
Rated speed rpm Supply pomp	: 1100	Rated speed rpm : 1240 Del. quantity
pressure bar Tolerance bar +-	: 7.8 : 0.5	cm3/1000 strokes : 1.5
Shutoff solenoid Volt	: 12	cm3/1000 str. + : 1.5 Check tolerance
Rated speed rpm	: 500	cm3/1000s. +: 1.5 Shutoff solenoid
Supply pomp pressure bar	: 5.0	Volt : 12
	· -	· ·

Aneroid pressure	+ Check tolerance
hPa :	+ cm3/1000s. +-: 1.5 + Spread
LDA/	+ cm3/1000 strokes : 5.0
HBA stroke mm : 5.0	+
	+ IDLE DELIVERY
Rated speed rpm : 1100	† Bata Lanced and 1/0
Del. quantity cm3/1000 strokes : 66.0	Rated speed rpm : 460
Tolerance	+ Del. quantity + cm3/1000 strokes : 1.5
cm3/1000 str. + : 2.5	+ Tolerance
Check tolerance	+ cm3/1000 str. $+$: 1.5
cm3/1000s. +: 3.5	- Check tolerance
Shutoff solenoid Volt : 12	+ cm3/1000s. +: 1.5 + Shutoff solenoid
volt : 12	+ Volt : 12
Rated speed rpm : 475	1
Del. quantity	+
cm3/1000 strokes : 53.5	+
Tolerance	†
cm3/1000 str. +-: 4.5 Check tolerance	İ
cm3/1000s. +-: 5.0	T START TRANSITION
Shutoff solenoid	
Volt : 12	Rated speed rpm : 440
Detail aread was a 800	+ Del. quantity
Rated speed rpm : 800 Del. quantity	+ cm3/1000 strokes : 60.0 + Tolerance
cm3/1000 strokes : 70.0	- cm3/1000 str. +-: 15.0
Tolerance	+ Shutoff solenoid
cm3/1000 str. + : 0.5	+ Volt : 12
Check tolerance	†
cm3/1000s. +-: 3.0 Shutoff solenoid	Rated speed rpm : 250
Volt : 12	+ Dal. quantity
	+ cm3/1000 strokes : 100.0
	+ Tolerance
ELECTR. SHUTOFF	+ cm3/1000 str. +-: 25.0 + Shutoff solenoid
CONTROL LEVER, IDLE STOP	+ Volt : 12
	+
Rated speed rpm : 375	
Del. quantity cm3/1000 strokes : 1.5	+ ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes : 1.5 Tolerance	Ī
cm3/1000 str. +: 1.5	+ LDA/
Check tolerance	HBA stroke mm : 5.0
cm3/1000s. +: 1.5	Dimension K mm : 3,7
Spread cm3/1000 strokes : 5.0	+ Tolerance mm + : 0,1 + Dimension KF mm : 6,4
CHD/1000 Scrokes . J.u	+ Tolerance mm +-: 0,2
FULL-LOAD STOP CONTROL LEVER	+ Dimension MS mm : 1,4
Ontrod annual runs : 775	+ Tolerance mm +-: 0,2
Rated speed rpm : 375 Del. quantity	Ī
cm3/1000 strokes : 1.5	
Tolerance	CONTROL LEVER POSITION
cm3/1000 str. + : 1.5	SET
Spread cm3/1000 strokes : 5.0	†
CONSTRUCTORY OF SI	-

Control lever

: 32,8..34,8 position YA mm

Control lever position YB mm : 37,7..44,3

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 21.02.97 Test oil : ISO 4113 Part no. : 0 460 426 263 Pump designation: VE6/12F1100R729-1 Customer—spec. information Customer : NH : EP040B-M100 Motor Power KW 81.0 TEST BENCH REQUIREMENTS Calibrating-oil return temperature °C Tolerance *C +-: Overflow

restriction mm	:	0.75
Inlet press. bar Tolerance bar +-		0.35 0.05
Test nozzle holde assembly	: 1	688 901 110
Opening pressure bar Tolerance bar +-	•	250 3

Tolerance	bar	+	:	3

lest line	5	:	7	080	750	UUU
Outside d	iameter	:		6.00)	

×	inside	diameter	:	2.00
×	length	mm	:	840

REMARKS			

BE	INNI	VG (OF D	ELI	/ERY

Start of delivery blocking

Plunger stroke Tolerance mm Outlet	+-	•	0,0) 12 ((0,06	5)
INJECTION PUMP	SET	TI	NG	VA	LUES	;
TIMING DEVICE	ΓRAV	ΈL				

Rated speed rpm	:	700
Setting mm Tolerance mm + Shutoff solenoid	:	0.8 0.2
Volt	:	12

SUPPLY	PUMP	PRESSURE

kared speed rpm	•	700
Supply pomp		
pressure bar	:	5.7
Tolerance bar +-	:	0.3
Shutoff solenoid		
Volt	:	12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm	:	60 0
Rated speed rpm	:	003
Del. quantity		
cm3/1000 strokes	:	61.5
Del. quantity		
cm3/1000 strokes	:	68.0
Tolerance		
cm3/1000 str. +-	:	0.5
Tolerance		
cm3/1000 str. +-	:	0.5
Spread		
cm3/1000 strokes	:	5.0
Shutoff solenoid		
Volt	:	12
Shutoff solenoid		
Volt	:	12

IDLE SETTING

Rated speed rpm	:	375
Del. quantity		4
cm3/1000 strokes	:	15.0
Tolerance cm3/1000 str. +-		0.5
Shutoff solenoid	•	0.5
Volt	:	12
Spread		
cm3/1000 strokes	:	5.0
Check tolerance		
cm3/1000s.	:	5.0

FULL-LOAD SPEED REGI	LII ATTON	+ Tolerance ccm/10s +-	: 27.7
TOLE COMP OF EED MEDI	OEAT TON	Check tolerance	
Rated speed rpm : Del. quantity		ccm/10s + Shutoff solenoid	: 27.7
cm3/1000 strokes : Tolerance	33.0	Volt	: 12
cm3/1000 str. +-: Shutoff solenoid	2.0	Rated speed rpm Overflow quantity	
Volt :	12	ccm/10s Tolerance	: 108.3
STARTING FUEL DELIVE	ERY	ccm/10s +-	: 16.6
Rated speed rpm : Del. quantity	100	Check tolerance	: 16.6
cm3/1000 strokes : Tolerance	85.0	Shutoff solenoid Volt	: 12
cm3/1000 str. +:	25.0	+	
Shutoff solenoid Volt :	12	DELIVERY AND BREAK	CAWAY CHARACTERISTIC
		+ Rated speed rpm	: 1180
		+ Del. quantity + cm3/1000 strokes + Tolerance	: 33.0
INJECTION-PUMP TEST	SPECIFICATIONS	cm3/1000 str. + Check tolerance	: 2.0
TIMING DEVICE CHARA		cm3/1000s. + Shutoff solenoid	: 8.0
ITHING PEATOR SHAKA	O.FVIO.TC	+ Volt	: 12
Rated speed rpm :	900	+	4450
SV travel mm :	1.8	+ Rated speed rpm + Del. quantity	: 1150
Tolerance mm +-:	0.6	cm3/1000 strokes	: 50.5
tolerance mm +: Shutoff solenoid	0.7	cm3/1000 str. + Check tolerance	: 8.0
Volt :	12	cm3/1000s. +- Shutoff solenoid	: 8.0
SUPPLY PUMP PRESSURE	E CHARACTERISTIC	Volt	: 12
Rated speed rpm : Supply pomp	900	Rated speed rpm Del. quantity	: 1240
pressure bar : Tolerance bar + :	6.7 0.5	cm3/1000 strokes Tolerance	: 1.5
Shutoff solenoid Volt :	12	cm3/1000 str. +- Check tolerance	: 1.5
Rated speed rpm :	475	cm3/1000s. +- Shutoff solenoid	: 1.5
Supply pomp pressure bar :	4.6	Volt	: 12
Tolerance bar +: Shutoff solenoid	0.5	Rated speed rpm Del. quantity	: 1100
Volt :	12	cm3/1000 strokes Tolerance	: 60.5
OVERFLOW QUANTITY		cm3/1000 str. + Check tolerance	: 2.5
Rated speed rpm : Overflow quantity	1100	cm3/1000s. +- Shutoff solenoid	: 3.5
ccm/10s :	133.3	Volt	: 12

	+ Shutoff solenoid
Rated speed rpm : 475 Del. quantity	Volt : 12
cm3/1000 strokes : 50.0	+
Tolerance cm3/1000 str. +-: 4.5	+
Check tolerance cm3/1000s. +-: 5.0 Shutoff solenoid	CTART TRANSPITAN
Volt : 12	+ START TRANSITION
Rated speed rpm : 800 Del. quantity	+ Rated speed rpm : 350 + Del. quantity + cm3/1000 strokes : 75.0
cm3/1000 strokes : 68.0 Tolerance	Tolerance + cm3/1000 str. +-: 15.0
cm3/1000 str. +: 0.5 Check tolerance	Shutoff solenoid Volt : 12
cm3/1000s. +: 3.0 Shutoff solenoid	
Volt : 12	Rated speed rpm : 200 Del. quantity
	cm3/1000 strokes : 105.0
ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP	cm3/1000 str. +: 25.0 Shutoff solenoid
Rated speed rpm : 375	+ Volt : 12
Del. quantity cm3/1000 strokes : 1.5	ASSEMBLY AND ADJUSTMENT DIMENSIONS
Tolerance cm3/1000 str. +-: 1.5	+ Dimension K mm : 3,7
Check tolerance cm3/1000s. +: 1.5	Tolerance mm + : 0,1 Dimension KF mm : 6,4
Spread um3/1000 strokes : 5.0	+ Tolerance mm + : 0,2 + Dimension MS mm : 1,4
FULL-LOAD STOP CONTROL LEVER	+ Tolerance mm +-: 0,2
Rated speed rpm : 375 Del. quantity	CONTROL LEVER POCITION
cm3/1000 strokes : 1.5 Tolerance	+ CONTROL LEVER POSITION + SET
cm3/1000 str. + : 1.5 Spread	Control Lever
cm3/1000 strokes : 5.0 Check tolerance	position YA mm : 32,834,8
cm3/1000s. +-: 1.5 Spread	Control Lever position YB mm : 37,744,3
cm3/1000 strokes : 5.0	
IDLE DELIVERY	
Rated speed rpm : 450	+ End of test-specification sheet
Del. quantity	+
The second secon	+ + + + + + + + + + + + + + + + + + +
Del. quantity cm3/1000 strokes : 1.5	† † †

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.02.97 Test oil : ISO 4113

Part no. : 0 460 426 264 Pump designation : VE6/12F1100R729-2

Customer-spec. information

Customer : NH

Motor : EPO40B-M125 Power KW : 96.0

TEST BENCH REQUIREMENTS

Calibrating-oil return

temperature °C : 45
Tolerance °C +-: 1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

assembly : 1 688 901 110

Opening pressure

bar : 250 Tolerance bar + : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,0

Tolerance mm +-: 0.02(0.06)

Outlet : B

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 600

Setting mm : 1.6
Tolerance mm + : 0.2
Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 600

Supply pomp pressure bar : !

pressure bar : 5.5 Tolerance bar + : 0.3 Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

12

0.5

Rated speed rpm 600 Rated speed rpm 800 Del. quantity cm3/1000 strokes : 75.0 Del. quantity cm3/1000 strokes : 80.0 Tolerance cm3/1000 str. +-:0.5 Tolerance cm3/1000 str. + :0.5 Spread cm3/1000 strokes : 5.0 Shutoff solenoid Volt 12

IDLE SETTING

Volt

Shutoff solenoid

Rated speed rpm : 375
Del. quantity

cm3/1000 strokes : 15.0 Tolerance

cm3/1000 str. +-: Shutoff solenoid

Volt : 12 Spread cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 5.0

FULL-LOAD SPEED REGULATION	Tolerance bar + : 0.5 Shutoff solenoid Volt : 12
TOLL LOAD STEED REGOLATION	+
Rated speed rpm : 1190 Del. quantity	OVERFLOW QUANTITY
cm3/1000 strokes : 33.0 Tolerance	+ Rated speed rpm : 1100 + Overflow quantity
cm3/1000 str. + : 2.0 Shutoff solenoid	+ ccm/10s : 130.5 + Tolerance
Volt : 12	ccm/10s +-: 27.7
STARTING FUEL DELIVERY	Check tolerance ccm/10s +: 27.7
Rated speed rpm : 100 Del. quantity	+ Shutoff solenoid + Volt : 12
cm3/1000 strokes : 100.0 Tolerance	+
cm3/1000 str. +-: 25.0	+ Overflow quantity
Shutoff solenoid Volt : 12	+ ccm/10s : 108.3 + Tolerance
	+ ccm/10s +-: 16.6
	+ Check tolerance + ccm/10s + : 16.6
	+ Shutoff solenoid
INJECTION—PUMP TEST SPECIFICATIONS	+ Volt : 12
TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm : 750	Rated speed rpm : 1190 Del. quantity
SV travel mm : 2.2 Tolerance mm +-: 0.6	- cm3/1000 strokes : 33.0 - Tolerance
Check tolerance mm +-: 0.7	- cm3/1600 str. + : 2.0 - Check tolerance
Shutoff solenoid Volt : 12	+ cm3/1000s. + : 8.0 + Shutoff solenoid
	Volt : 12
Rated speed rpm : 475	Rated speed rpm : 1150
SV travel mm : 1.1 Tolerance mm +-: 0.6	+ Del. quantity + cm3/1000 strokes : 60.0
Check tolerance mm + : 0.7	+ Tolerance + cm3/1000 str. +-: 12.0
Shutoff solenoid Volt : 12	+ Check tolerance + cm3/1000s. +-: 12.0
SUPPLY PUMP PRESSURE CHARACTERISTIC	+ Shutoff solenoid + Volt : 12
Rated speed rpm : 1100	Rated speed rpm : 1240
Supply pomp ressure bar : 7.8	the Del. quantity cm3/1000 strokes : 1.5
Tolerance bar +-: 0.5 Shutoff solenoid	+ Tolerance + cm3/1000 str. +-: 1.5
Volt : 12	+ Check tolerance + cm3/1000s. +-: 1.5
Rated speed rpm : 475 Supply pomp	+ Shutoff solenoid + Volt : 12
pressure bar : 4.9	+

Rated speed rpm : 1100	
	+ Del. quantity
Del. quantity	+ cm3/1000 strokes : 1.5
cm3/1000 strokes : 73.0	+ Tolerance
Tolerance	+ cm3/1000 str. +-: 1.5
cm3/1000 str. +-: 3.0	+ Check tolerance
Check tolerance	+ cm3/1000s. $+-: 1.5$
cm3/1000s, +: 3.5	+ Shutoff solenoid
Shutoff solenoid	Volt : 12
Volt : 12	T volt . 12
VOICE . 12	†
Rated speed rpm : 475	†
	†
Del. quantity	†
cm3/1000 strokes : 68.5	†
Tolerance	†
cm3/1000 str. + : 4.0	+ START TRANSITION
Check tolerance	+
cm3/1000s. +-: 5.0	+ Rated speed rpm : 440
Shutoff solenoid	+ Del. quantity
Volt : 12	+ cm3/1000 strokes : 72.0
	Tolerance
Rated speed rpm : 800	+ cm3/1000 str. + : 10.0
Del. quantity	+ Shutoff solenoid
cm3/1000 strokes : 80.0	+ Volt : 12
Tolerance	1
cm3/1000 str. + : 0.5	1
Check tolerance	Rated speed rpm : 250
cm3/1000s. +-: 3.0	+ Del. quantity
Shutoff solenoid	+ cm3/1000 strokes : 125.0
Volt : 12	+ Tolerance
	+ cm3/1000 str. + : 25.0
	+ Shutoff solenoid
	+ Volt : 12
ELECTR. SHUTOFF	
CONTROL LEVER, IDLE STOP	
CONTINUE CEPENTY IDEE OF OF	
	T ASSEMBLY AND ADJUSTMENT DIMENSIONS
Rated speed rom : 375	ASSEMBLY AND ADJUSTMENT DIMENSIONS
Rated speed rpm : 375	+
Del. quantity	+ Dimension K mm : 3,7
Del. quantity cm3/1000 strokes : 1.5	Dimension K mm : 3,7 Tolerance mm +: 0,1
Del. quantity cm3/1000 strokes : 1.5 Tolerance	Dimension K mm : 3,7 Tolerance mm + : 0,1 Dimension KF mm : 6,4
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5	Dimension K mm : 3,7 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +- : 1.5 Check tolerance	Dimension K mm : 3,7 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 Dimension MS mm : 1,4
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +- : 1.5 Check tolerance cm3/1000s. +- : 1.5	Dimension K mm : 3,7 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance cm3/1000s. +-: 1.5 Spread	Dimension K mm : 3,7 Tolerance mm +: 0,1 Dimension KF mm : 6,4 Tolerance mm +: 0,2 Dimension MS mm : 1,4
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +- : 1.5 Check tolerance cm3/1000s. +- : 1.5	Dimension K mm : 3,7 Tolerance mm +: 0,1 Dimension KF mm : 6,4 Tolerance mm +: 0,2 Dimension MS mm : 1,4
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0	Dimension K mm : 3,7 Tolerance mm +: 0,1 Dimension KF mm : 6,4 Tolerance mm +: 0,2 Dimension MS mm : 1,4 Tolerance mm +: 0,2
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance cm3/1000s. +-: 1.5 Spread	Dimension K mm : 3,7 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER	Dimension K mm : 3,7 Tolerance mm +: 0,1 Dimension KF mm : 6,4 Tolerance mm +: 0,2 Dimension MS mm : 1,4 Tolerance mm +: 0,2
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 375	Dimension K mm : 3,7 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 375 Del. quantity	Dimension K mm : 3,7 Tolerance mm +: 0,1 Dimension KF mm : 6,4 Tolerance mm +: 0,2 Dimension MS mm : 1,4 Tolerance mm +: 0,2 CONTROL LEVER POSITION SET
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 1.5	Dimension K mm : 3,7 Tolerance mm +: 0,1 Dimension KF mm : 6,4 Tolerance mm +: 0,2 Dimension MS mm : 1,4 Tolerance mm +: 0,2 CONTROL LEVER POSITION SET Control lever
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 1.5 Tolerance	Dimension K mm : 3,7 Tolerance mm +: 0,1 Dimension KF mm : 6,4 Tolerance mm +: 0,2 Dimension MS mm : 1,4 Tolerance mm +: 0,2 CONTROL LEVER POSITION SET
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5	Dimension K mm : 3,7 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Spread	Dimension K mm : 3,7 Tolerance mm +: 0,1 Dimension KF mm : 6,4 Tolerance mm +: 0,2 Dimension MS mm : 1,4 Tolerance mm +: 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,8.34,8 Control lever
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0	Dimension K mm : 3,7 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance	Dimension K mm : 3,7 Tolerance mm +: 0,1 Dimension KF mm : 6,4 Tolerance mm +: 0,2 Dimension MS mm : 1,4 Tolerance mm +: 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,8.34,8 Control lever
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0	Dimension K mm : 3,7 Tolerance mm +: 0,1 Dimension KF mm : 6,4 Tolerance mm +: 0,2 Dimension MS mm : 1,4 Tolerance mm +: 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,8.34,8 Control lever
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. + : 1.5	Dimension K mm : 3,7 Tolerance mm +: 0,1 Dimension KF mm : 6,4 Tolerance mm +: 0,2 Dimension MS mm : 1,4 Tolerance mm +: 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,8.34,8 Control lever
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance	Dimension K mm : 3,7 Tolerance mm +: 0,1 Dimension KF mm : 6,4 Tolerance mm +: 0,2 Dimension MS mm : 1,4 Tolerance mm +: 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8 Control lever position YB mm : 39,746,3
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL—LOAD STOP CONTROL LEVER Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. + : 1.5 IDLE DELIVERY	Dimension K mm : 3,7 Tolerance mm +: 0,1 Dimension KF mm : 6,4 Tolerance mm +: 0,2 Dimension MS mm : 1,4 Tolerance mm +: 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,8.34,8 Control lever
Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. + : 1.5	Dimension K mm : 3,7 Tolerance mm +: 0,1 Dimension KF mm : 6,4 Tolerance mm +: 0,2 Dimension MS mm : 1,4 Tolerance mm +: 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8 Control lever position YB mm : 39,746,3

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.02.97 Test oil : ISO 4113

Part no. : 0 460 426 265 Pump designation : VE6/12F115OR730

Customer-spec. information

Customer : NH

Motor : EP040B-M160 Power KW : 117.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C +-: 1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35 Tolerance bar ÷ : 0.05

Test nozzle holde

assembly : 1 688 901 110

Opening pressure

bar : 250
Tolerance bar + : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 1,0

Tolerance mm +: 0.02(0.06)

Outlet : B

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 900 Aneroid pressure hPa : 1500

Setting mm : 2.7
Tolerance mm + : 0.2
Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 900
Aneroid pressure
hPa : 1500
Supply pomp
pressure bar : 6.7
Tolerance bar +: 0.3
Shutoff solenoid
Volt : 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 700 Aneroid pressure hPa 1500 Del. quantity cm3/1000 strokes : 106.0 Tolerance cm3/1000 str. + :0.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 5.0 Shutoff solenoid

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

12

Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 81.0
Tolerance
cm3/1000 str. +: 0.5
Shutoff solenoid
Volt : 12
Check tolerance
cm3/1000s. : 5.0

IDLE SETTING

Volt

Rated speed rpm : 375 Del. quantity	+ Tolerance mm ++: 0.5 + Check
cm3/1000 strokes : 15.0 Tolerance	tolerance mm + : 0.7 Shutoff solenoid
cm3/1000 str. + : 0.5 Shutoff solenoid	Volt : 12
Volt : 12	SUPPLY PUMP PRESSURE CHARACTERISTIC
Spread cm3/1000 strokes : 5.0	Rated speed rpm : 1150
Check tolerance cm3/1000s. : 5.0	+ Aneroid pressure + hPa : 1500
	+ Supply pomp + pressure bar : 7.9
	Tolerance bar +-: 0.5 Shutoff solenoid
FULL-LOAD SPEED REGULATION	Volt : 12
Rated speed rpm : 1250 Pressure hPa : 1500	Rated speed rpm : 700 Aneroid pressure
Del. quantity cm3/1000 strokes : 49.0	+ hPa : 1500
Tolerance	Supply pomp : 5.7
cm3/1000 str. + : 2.0 Shutoff solenoid	Tolerance bar +-: 0.5 Shutoff solenoid
Volt : 12	Volt : 12
STARTING FUEL DELIVERY	OVERFLOW QUANTITY
Rated speed rpm : 100 Del. quantity	Rated speed rpm : 1150 Aneroid pressure
cm3/1000 strokes : 110.0 Tolerance	+ hPa : 1500
cm3/1000 str. +-: 30.0	+ Overflow quantity + ccm/10s : 130.5
Shutoff solenoid Volt : 12	+ Tolerance + ccm/10s + : 27.7
	Check tolerance
	ccm/10s + : 27.7 Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATIONS	+ Volt : 12
TIMING DEVICE CHARACTERISTIC	Rated speed rpm : 500 Aneroid pressure
Rated speed rpm : 1150	+ hPa : 1500 Cverflow quantity
Aneroid pressure hPa : 1500	ccm/10s : 97.2
	ccm/10s + : 16.6
Tolerance mm + : 0.4	Check tolerance
Check tolerance mm + : 0.6	+ ccm/10s +-: 16.6 + Shutoff solenoid
Shutoff solenoid Volt : 12	Volt : 12
	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm : 700 Aneroid pressure	+ Rated speed rpm : 1250
hPa : 1500	Aneroid pressure
SV travel mm : 1.5	+ hPa : 1500 +

Del. quantity		
octi qualitity		+ Rated speed rpm : 500
cm3/1000 strokes :	49.0	+ Aneroid pressure
Tolerance	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	+ hPa : 1500
cm3/1000 str. +:	2.0	
	2.0	+ Del. quantity
Check tolerance		+ cm3/1000 strokes : 120.0
cm3/1000s. +-:	8.0	+ Tolerance
Shutoff solenoid		+ cm3/1000 str. $+$: 4.0
Volt :	12	+ Check tolerance
VO(C	12	
		+ cm3/1000s. +-: 5.0
Rated speed rpm :	1200	+ Shutoff solenoid
Aneroid pressure		→ Volt : 12
hPa :	1500	. ,,,
	1500	T 200
Del. quantity		+ Rated speed rpm : 700
cm3/1000 strokes :	83.0	+ Aneroid pressure
Tolerance		+ hPa : 1500
cm3/1000 str. +:	10.0	+ Del. quantity
	10.0	
Check tolerance	40.0	+ cm3/1000 strokes : 106.0
cm3/1000s. + :	10.0	+ Tolerance
Shutoff solenoid		+ cm3/1000 str. +-: 0.5
Volt :	12	+ Check tolerance
	16	
		+ cm3/1000s. + : 3.0
Rated speed rpm :	1300	+ Shutoff solenoid
Aneroid pressure		+ Volt : 12
hPa :	1500	
	1900	T
Del. quantity	A =	Ť
cm3/1000 strokes :	1.5	+
Tolerance		+ ELECTR. SHUTOFF
cm3/1000 str. + :	1.5	+ CONTROL LEVER, IDLE STOP
	1.5	CONTINUE EEVEN, IDEE STOP
Check tolerance	4 =	†
cm3/1000s. +-:	1.5	+ Rated speed rpm : 375
Shutoff solenoid		+ Del. quantity
Vol+	12	
Volt :	12	+ cm3/1000 strokes : 1.5
		+ cm3/1000 strokes : 1.5 + Tolerance
Rated speed rpm :	12 650	+ cm3/1000 strokes : 1.5 + Tolerance + cm3/1000 str. + : 1.5
Rated speed rpm :		+ cm3/1000 strokes : 1.5 + Tolerance + cm3/1000 str. + : 1.5
Rated speed rpm : Aneroid pressure	650	+ cm3/1000 strokes : 1.5 + Tolerance + cm3/1000 str. + : 1.5 + Check tolerance
Rated speed rpm :		+ cm3/1000 strokes : 1.5 + Tolerance + cm3/1000 str. + : 1.5 + Check tolerance + cm3/1000s. + : 1.5
Rated speed rpm : Aneroid pressure hPa :	650	+ cm3/1000 strokes : 1.5 + Tolerance + cm3/1000 str. + : 1.5 + Check tolerance + cm3/1000s. + : 1.5 - Spread
Rated speed rpm : Aneroid pressure hPa :	650 600	+ cm3/1000 strokes : 1.5 + Tolerance + cm3/1000 str. + : 1.5 + Check tolerance + cm3/1000s. + : 1.5
Rated speed rpm : Aneroid pressure hPa :	650	+ cm3/1000 strokes : 1.5 + Tolerance + cm3/1000 str. + : 1.5 + Check tolerance + cm3/1000s. + : 1.5 - Spread
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm :	650 600	- cm3/1000 strokes : 1.5 - Tolerance - cm3/1000 str. + : 1.5 - Check tolerance - cm3/1000s. + : 1.5 - Spread - cm3/1000 strokes : 5.0
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity	650 600 4.0	+ cm3/1000 strokes : 1.5 + Tolerance + cm3/1000 str. + : 1.5 + Check tolerance + cm3/1000s. + : 1.5 - Spread
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes :	650 600 4.0	- cm3/1000 strokes : 1.5 - Tolerance - cm3/1000 str. + : 1.5 - Check tolerance - cm3/1000s. + : 1.5 - Spread - cm3/1000 strokes : 5.0 - FULL-LOAD STOP CONTROL LEVER
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance	650 600 4.0 101.0	- cm3/1000 strokes : 1.5 - Tolerance - cm3/1000 str. + : 1.5 - Check tolerance - cm3/1000s. + : 1.5 - Spread - cm3/1000 strokes : 5.0 - FULL-LOAD STOP CONTROL LEVER - Rated speed rpm : 375
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +:	650 600 4.0	- cm3/1000 strokes : 1.5 - Tolerance - cm3/1000 str. + : 1.5 - Check tolerance - cm3/1000s. + : 1.5 - Spread - cm3/1000 strokes : 5.0 - FULL-LOAD STOP CONTROL LEVER - Rated speed rpm : 375 - Del. quantity
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance	650 600 4.0 101.0	- cm3/1000 strokes : 1.5 - Tolerance - cm3/1000 str. + : 1.5 - Check tolerance - cm3/1000s. + : 1.5 - Spread - cm3/1000 strokes : 5.0 - FULL-LOAD STOP CONTROL LEVER - Rated speed rpm : 375 - Del. quantity
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance	650 600 4.0 101.0 0.5	- cm3/1000 strokes : 1.5 - Tolerance - cm3/1000 str. + : 1.5 - Check tolerance - cm3/1000s. + : 1.5 - Spread - cm3/1000 strokes : 5.0 - FULL-LOAD STOP CONTROL LEVER - Rated speed rpm : 375 - Del. quantity - cm3/1000 strokes : 1.5
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + :	650 600 4.0 101.0	
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid	650 600 4.0 101.0 0.5 4.0	- cm3/1000 strokes : 1.5 - Tolerance - cm3/1000 str. + : 1.5 - Check tolerance - cm3/1000s. + : 1.5 - Spread - cm3/1000 strokes : 5.0 - FULL-LOAD STOP CONTROL LEVER - Rated speed rpm : 375 - Del. quantity - cm3/1000 strokes : 1.5 - Tolerance - cm3/1000 str. + : 1.5
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + :	650 600 4.0 101.0 0.5	- cm3/1000 strokes : 1.5 - Tolerance - cm3/1000 str. + : 1.5 - Check tolerance - cm3/1000s. + : 1.5 - Spread - cm3/1000 strokes : 5.0 - FULL-LOAD STOP CONTROL LEVER - Rated speed rpm : 375 - Del. quantity - cm3/1000 strokes : 1.5 - Tolerance - cm3/1000 str. + : 1.5 - Spread
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid	650 600 4.0 101.0 0.5 4.0	- cm3/1000 strokes : 1.5 - Tolerance - cm3/1000 str. + : 1.5 - Check tolerance - cm3/1000s. + : 1.5 - Spread - cm3/1000 strokes : 5.0 - FULL-LOAD STOP CONTROL LEVER - Rated speed rpm : 375 - Del. quantity - cm3/1000 strokes : 1.5 - Tolerance - cm3/1000 str. + : 1.5 - Spread
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt :	650 600 4.0 101.0 0.5 4.0	
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt : Rated speed rpm :	650 600 4.0 101.0 0.5 4.0	
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure	650 600 4.0 101.0 0.5 4.0 12 1150	
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa :	650 600 4.0 101.0 0.5 4.0	
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure	650 600 4.0 101.0 0.5 4.0 12 1150	
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity	650 600 4.0 101.0 0.5 4.0 12 1150 1500	
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes :	650 600 4.0 101.0 0.5 4.0 12 1150	
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance	650 600 4.0 101.0 0.5 4.0 12 1150 1500 88.0	
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Tolerance cm3/1000 strokes :	650 600 4.0 101.0 0.5 4.0 12 1150 1500	
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Tolerance cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance	650 600 4.0 101.0 0.5 4.0 12 1150 1500 88.0 2.5	cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0
Rated speed rpm : Aneroid pressure hPa : LDA/ HBA stroke mm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Tolerance cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance	650 600 4.0 101.0 0.5 4.0 12 1150 1500 88.0 2.5	cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0
Rated speed rpm Aneroid pressure hPa LDA/ HBA stroke mm Del. quantity cm3/1000 strokes: Tolerance cm3/1000str. +: Check tolerance cm3/1000s. +: Shucoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000str. +: Check tolerance cm3/1000s. +:	650 600 4.0 101.0 0.5 4.0 12 1150 1500 88.0	cm3/1000 strokes: 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Spread cm3/1000 strokes: 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm: 375 Del. quantity cm3/1000 strokes: 1.5 Tolerance cm3/1000 str. +: 1.5 Spread cm3/1000 strokes: 5.0 Check tolerance cm3/1000s. +: 1.5 Spread cm3/1000s. +: 1.5 Spread cm3/1000s. +: 1.5 Spread cm3/1000s. +: 5.0 IDLE DELIVERY Rated speed rpm: 450 Del. quantity
Rated speed rpm Aneroid pressure hPa LDA/ HBA stroke mm Del. quantity cm3/1000 strokes: Tolerance cm3/1000s. +: Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes: Tolerance cm3/1000 strokes: Shutoff solenoid	650 600 4.0 101.0 0.5 4.0 12 1150 1500 88.0 2.5 3.5	cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000strokes : 5.0 IDLE DELIVERY Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 1.5
Rated speed rpm Aneroid pressure hPa LDA/ HBA stroke mm Del. quantity cm3/1000 strokes: Tolerance cm3/1000str. +: Check tolerance cm3/1000s. +: Shucoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000str. +: Check tolerance cm3/1000s. +:	650 600 4.0 101.0 0.5 4.0 12 1150 1500 88.0 2.5	cm3/1000 strokes: 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Spread cm3/1000 strokes: 5.0 FULL-LOAD STOP CONTROL LEVER Rated speed rpm: 375 Del. quantity cm3/1000 strokes: 1.5 Tolerance cm3/1000 str. +: 1.5 Spread cm3/1000 strokes: 5.0 Check tolerance cm3/1000s. +: 1.5 Spread cm3/1000s. +: 1.5 Spread cm3/1000s. +: 1.5 Spread cm3/1000s. +: 5.0 IDLE DELIVERY Rated speed rpm: 450 Del. quantity

Check tolerance cm3/1000s. 1.5 Shutoff solenoid Voit 12 START TRANSITION Rated speed rpm : 230 Del. quantity 82.0 cm3/1000 strokes : Tolerance cm3/1000 str. + :10.0 Shutoff solenoid Volt 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ HBA stroke mm 4.0 Dimension K mm : 3,7 Tolerance mm Dimension KF mm : 6,4 +-: 0,2 Tolerance mm : 1,3 Dimension MS mm Tolerance mm CONTROL LEVER POSITION SET Control lever position YA mm : 32,8..34,8 Control lever : 44,0..50,6 position YB mm End of test-specification sheet

G02

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.02.97 Test oil : ISO 4113

Part no. : 0 460 414 158 Pump designation : VE4/11F1800L658-1

Customer-spec. information

Customer : VM

Motor : D 704 L 2.8 L Power KW : 51.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C + : 1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35 Tolerance bar +- : 0.05

Test nozzle holde

assembly : 1 688 901 110

Opening pressure

bar : 250 Tolerance bar +- : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1150

Setting mm : 1.8
Tolerance mm + : 0.2
Shutoff solenoid
Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1150

Supply pomp

pressure bar : 6.6
Tolerance bar + : 0.3
Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1150 Del. quantity

cm3/1000 strokes : 52.5

cm3/1000 str. +-: 0.5 Spread

cm3/1000 strokes : 4.0 Shutoff solenoid

Volt : 12

IDLE SETTING

Rated speed rpm : 300
Del. quantity
cm3/1000 strokes : 15.0
Tolerance
cm3/1000 str. +- : 2.0

cm3/1000 str. + : 2.0 Shutoff solenoid Volt : 12

Volt : Spread

cm3/1000 strokes : 5.0 Check tolerance

cm3/1000s. : 5.0

FULL-LOAD SPEED REGULATION

Rated speed rpm : 1890

Del. quantity

cm3/1000 strokes : 36.5

Tolerance

cm3/1000 str. +-: 2.0

Shutoff solenoid Volt : 12

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity		+	Check	
cm3/1000 strokes	; 55.0	+	tolerance mm +-	: 0.9
Tolerance		+	Shutoff solenoid	
cm3/1000 str. +-	: 20.0	1	Volt	: 12
Shutoff solenoid		1		
Volt	: 12	1	SUPPLY PUMP PRESSU	DE CHADACTEDISTIC
1011	• • •	1	SOFT ET TOTAL TRESSO	RE CHARACTERISTIC
		1	Rated speed rpm	: 1550
		I	Supply pomp	. 1330
LOAD-DEPENDENT ST	APT OF DELIVE	EPV I	pressure bar	: 8.0
SETTING	ANT OF DECIME	T T	Tolerance bar +-	
SCILING		T		: 0.5
DELIVERY DIFFEREN		Ť	Shutoff solenoid	. 42
DECTACK! DIFFEREN	, E	Ť	Volt	: 12
Dated speed ann	: 1550	Ť	Datad aread non	. (00
Rated speed rpm	: 1550	†		: 600
Del. quantity	. 44.0	†	Supply pomp	
cm3/1000 strokes	: -11.0	t	pressure bar	: 4.6
Tolerance	. 4.6	†	Tolerance bar +-	: 0.3
cm3/1000 str. +	: 1.0	†	Shutoff solenoid	4.0
Shutoff solenoid	4.5	†	Volt	: 12
Volt	: 12	t		
		+	OVERFLOW QUANTITY	
PRESSURE DIFFEREN	CE	†		
		+	Rated speed rpm	: 1800
Rated speed rpm	: 1550	+	Overflow quantity	
Del. quantity		+	ccm/10s	: 177.7
cm3/1000 strokes	: -0.2	+	Tolerance	
Tolerance		+	ccm/10s +-	: 27.7
cm3/1000 str. +-	: 0.1	+		
Shutoff solenoid		+	Check tolerance	
Volt	: 12	+	ccm/10s +-	: 41.6
		+	Shutoff solenoid	
TIMING-DEVICE TRAN	/EL DIFFERENC	E }	Volt	: 12
		+		
Rated speed rpm	: 1550	+	Rated speed rpm	: 500
Del. quantity		+	Overflow quantity	
cm3/1000 strokes	: -2.0	+	ccm/10s	: 130.5
Tolerance		+	Tolerance	
cm3/1000 str. +-	: 0.1	+	ccm/10s +-	: 16.6
Shutoff solenoid		+		
Volt	: 12	+	Check tolerance	
		+	ccm/10s +-	: 22.2
			Shutoff solenoid	
INJECTION-PUMP TES	ST SPECIFICAT	TIONS +	Volt	: 12
		+		
TIMING DEVICE CHAR	RACTERISTIC	+	DELIVERY AND BREAK	AWAY CHARACTERISTIC
		+		
Rated speed rpm	: 1550	+	Rated speed rpm	: 1890
		+	Del. quantity	
SV travel mm	: 4.7	+	cm3/1000 strokes	: 36.5
Tolerance mm +-	: 0.4	+	Tolerance	
Check		+	cm3/1000 str. +-	2.0
tolerance mm +	: 0.9	+	Check tolerance	
Shutoff solenoid		+	$cm3/1000s.$ \leftarrow	6.0
Volt	: 12	1	Shutoff solenoid	
		+	Volt	: 12
Rated speed rpm	: 1000	+		
, ,		+	Rated speed rpm	: 1910
SV travel mm	: 1.0	1	Del. quantity	
Tolerance mm +-	• •	1	cm3/1000 strokes	: 14.0
-		· ·	· · · -	

Charle tallanaman		1 Observation of the control of the
Check tolerance	2.5	+ Check tolerance
cm3/1000s. +-:	7.5	+ cm3/1000s. + : 3.0
Shutoff solenoid	•-	+ Shutoff solenoid
Volt :	12	† Volt : 12
		+
Rated speed rpm :	1960	
Del. quantity		+ MECHANICAL SHUTOFF
cm3/1000 strokes :	1.5	1
Tolerance		Rated speed rpm : 1800
cm3/1000 str. +-:	1.5	+ Del. quantity
Check tolerance		+ cm3/1000 strokes : 1.5
cm3/1000s. +-:	1.5	Tolerance
Shutoff solenoid	1.0	
	42	+ cm3/1000 str. + : 1.5
Volt :	12	+ Check tolerance
		+ cm3/1000s. +-: 1.5
Rated speed rpm :	1800	+ Shutoff solenoid
Del. quantity		+ Volt : 12
cm3/1000 strokes :	47.0	+
Tolerance		
cm3/1000 str. $+-$:	2.0	+ ELECTR. SHUTOFF
Check tolerance		+ CONTROL LEVER, IDLE STOP
cm3/1000s. +-:	3.5	1
Shutoff solenoid		+ Rated speed rpm : 300
Volt :	12	del quantity
	12	+ cm3/1000 strokes : 1.5
Rated speed rpm :	700	
	700	† Tolerance
Del. quantity	30 F	+ cm3/1000 str. + : 1.5
cm3/1000 strokes :	32.5	+ Check tolerance
Tolerance		+ cm3/1000s. +-: 1.5
cm3/1000 str. + :	3. 5	+ Spread
Check tolerance		+ cm3/1000 strokes : 5.0
cm3/1000s. +-:	5.0	+
Shutoff solenoid		+ FULL-LOAD STOP CONTROL LEVER
Volt :	12	
		+ Rated speed rom : 300
Rated speed rpm :	1600	+ Del. quantity
Del. quantity		+ cm3/1000 strokes : 1.5
cm3/1000 strokes :	48.0	+ Tolerance
Tolerance		+ cm3/1000 str. + : 1.5
cm3/1000 str. +-:	2.0	+ Spread
Check tolerance	2.0	- cm3/1000 strokes : 5.0
cm3/1000s. +-:	3.5	Check tolerance
Shutoff solenoid	J. J	+ cm3/1000s. +-: 1.5
	12	
Volt :	16	+ Spread
Detail aread	500	+ cm3/1000 strokes : 5.0
Rated speed rpm :	500	TO E DEL THERM
Del. quantity	20.0	† IDLE DELIVERY
cm3/1000 strokes :	20.0	†
Tolerance		+ Rated speed rpm : 420
cm3/1000 str. + :	2.0	+ Del. quantity
Check tolerance		+ cm3/1000 strokes : 1.5
cm3/1000s. +-:	3. 5	† Tolerance
Shutoff solenoid		+ cm3/1000 str. +-: 1.5
Volt :	12	+ Check tolerance
-		+ cm3/1000s. $+$: 1.5
Rated speed rpm :	1150	+ Shutoff solenoid
Del. quantity	- -	+ Volt : 12
cm3/1000 strokes :	52.5	1
Tolerance	J J	1
cm3/1000 str. +-:	n s	1
	U. J	1

CHECKING	LOAD-DEPENDENT
START OF	DELIVERY

DELIVERY DIFFERENCE

Rated	speed	rpm	:	1550
No.1 -		L		

Del. quantity

cm3/1000 strokes : -18.0

Tolerance

cm3/1000 str. \leftarrow : 3.0

Check tolerance

cm3/1000s. 4.0

Shutoff solenoid

Volt 12

TIMING-DEVICE TRAVEL DIFFERENCE

Rated	speed	rpm	:	1550

Del. quantity

cm3/1000 strokes : -2.0

Tolerance

cm3/1000 str. →: 0.1

Check tolerance cm3/1000s. 0.1

Shutoff solenoid

Volt 12

DELIVERY DIFFERENCE

Rated	sneed	rom	•	1550
NO LEU	SUCCU	/ LJIN		1 2 1 1

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 str. \leftarrow : 3.0

Check tolerance

cm3/1000s.3.0

Shutoff solenoid

Volt 12

TIMING-DEVICE TRAVEL DIFFERENCE

Rated sp	eed rom	ı :	1550
----------	---------	-----	------

Tolerance mm +-: 0.4

Check

tolerance mm + : 0.4

Shutoff solenoid

Volt 12

START TRANSITION

Rated speed rpm 400

Del. quantity

cm3/1000 strokes : 20.0

Tolerance

cm3/1000 str. +-: 10.0

Shutoff solenoid

Volt 12

150 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 65.0

Tolerance

cm3/1000 str. +-:15.0

Shutoff solenoid

Volt 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

: 3,3 Dimension K mm

Tolerance mm +: 0,1

Dimension KF mm : 8,4

Tolerance mm + : 0.2

MS1 dimension mm : 1,7 Tolerance mm +-: 0,1

Note remarks	
Refer to Service adjustment instru See microcard(s)	
Edition Test oil	: 17.02.97 : ISO 4113
Part no. Pump designation	: 0 460 414 137 : VE4/11F1250L678
Customer—spec. in Customer Notor Power KW	formation : IVECO-FIAT : 8045.25K.214 : 69.0
TEST BENCH REQUIR	EMENTS
Calibrating-oil return temperature °C Tolerance °C +-	: 45 : 1
Overflow restriction mm	: 0.55
Inlet press. bar Tolerance bar +	: 0.35 : 0.05
Test nozzle holde assembly	: 1 688 901 027
Opening pressure bar Tolerance bar +-	: 250 : 3
Test lines	: 1 680 750 073
Outside diameter	: 6.00
x inside diameter x length mm	: 2.00 : 450
REMARKS	

n-4 louis do	050
Rated speed rpm Aneroid pressure hPa	: 950
	: 1000
Setting mm Tolerance mm +-	: 2.8 : 0.2
Shutoff solenoid	,
Volt	: 12
SUPPLY PUMP PRESS	URE
Rated speed rpm Aneroid pressure	: 950
hPa Supply pomp	: 1000
pressure bar	: 7.3
Tolerance bar +- Shutoff solenoid	: 0.3
Volt	: 12
FULL-LOAD DELIVER	Y WITH BOOST PRESSURE
Rated speed rpm Aneroid pressure	: 750
hPa Del. quantity	: 1000
cm3/1000 strokes	: 74.5
Tolerance cm3/1000 str. +	: 0.5
Spread cm3/1000 strokes	: 3.5
Check tolerance cm3/1000s.	: 4.0
Shutoff solenoid Volt	: 12
	WITHOUT BOOST PRESSURE
	: 500
Del. quantity cm3/1000 strokes	: 52.0
Tolerance cm3/1000 str. +-	
Shutoff solenoid	
Volt Check tolerance	: 12
cm3/1000S.	: 4.0
IDLE SETTING	
Rated speed rpm Del. quantity	: 335
cm3/1000 strokes	: 9.0
Tolerance cm3/1000 str. +-	: 2.0
Shutoff solenoid Volt	: 12

Spread cm3/1000 strokes	:	3.5	‡	Rated speed rpm Aneroid pressure	:	1100	
Check tolerance cm3/1000s.	:	4.0	<u> </u>	hPa Supply pomp	:	1000	
	•		1	pressure bar	:	8.1	
			1	Tolerance bar +-	:	0.3	
			+	Shutoff solenoid			
			+	Volt	:	12	
FULL-LOAD SPEED R	EGUI	LATION	t	Dakad an and mun		000	
Rated speed rpm		1340	1	Rated speed rpm Aneroid pressure	:	800	
Pressure hPa	:	1000	I	hPa	•	1000	
Del. quantity	•	1000	1	Supply pomp	•	1000	
cm3/1000 strokes	:	51.0	 ,	pressure bar	:	6.5	
Tolerance			+	Tolerance bar +	:	0.3	
cm3/1000 str. +-	:	3.0	+	Shutoff solenoid			
Shutoff solenoid		42	†	Volt	:	12	
Volt	:	12	Ī	OVERFLOW QUANTITY			
STARTING FUEL DEL	TVF	RY	I	OVERFLOW GOMINITH			
			1	Rated speed rpm	:	1250	
Rated speed rpm	:	100	+	Aneroid pressure			
Del. quantity			+	hPa	:	1000	
cin3/1000 strokes	•	90.0	†	Overflow quantity	_	04 (
Tolerance cm3/1000 str. +-		20.0	1	ccm/10s Tolerance	:	91.6	
Shutoff solenoid	•	20.0	I	ccm/10s +-	•	27.7	
Volt	:	12	1		•		
			+	Check tolerance			
			+	ccm/10s +-	:	41.6	
			†	Shutoff solenoid Volt		12	
			I	VOCE	•	12	
INJECTION-PUMP TE	ST S	SPECIFICATIONS	+	Rated speed rpm	:	350	
			†	Aneroid pressure		4000	
TIMING DEVICE CHA	RAC	TERISTIC	Ť	hPa	:	1000	
Rated speed rpm	•	1100	I	Overflow quantity ccm/10s		58.3	
Aneroid pressure	•	1100	1	Tolerance	•	50.5	
hPa	:	1000	+	ccm/10s +-	;	16.6	
		, ,	+				
SV travel mm Tolerance mm +-	:	4.4 0.4	†	Check tolerance ccm/10s +-		22.2	
Check	•	0.4	I	Shutoff solenoid	•	22.2	
tolerance mm +-	:	0.7	1	Volt	:	12	
Shutoff solenoid			+				
Volt	:	12	+	DELIVERY AND BREA	KAWA	AY CHARACTERIS	TIC
Datad anad ann		800	İ	Pated spood spm		1340	
Rated speed rpm Aneroid pressure	:	800	I	Rated speed rpm Aneroid pressure	:	1340	
hPa	:	1000	1	hPa	:	1000	
			+	Del. quantity		· -	
SV travel mm	:	1.5	+	cm3/1000 strokes	:	51.0	
Check		ר ח	†	Tolerance		7 0	
tolerance mm +- Shutoff solenoid	:	0.7	1	cm3/1000 str. +- Check tolerance	•	3.0	
Volt	:	12	Ţ	cm3/1000s. +-	:	6.0	
. • • •	•		<u> </u>	Shutoff solenoid	•		
SUPPLY PUMP PRESSI	URE	CHARACTERISTIC	+	Volt	:	12	
			+				

Rated speed rpm :	1395	+ Tolerance
Aneroid pressure hPa :	1000	+ cm3/1000 str. +-: 0.5 + Check tolerance
Del. quantity cm3/1000 strokes :	20.0	cm3/1000s. +-: 3.0 Shutoff solenoid
Check tolerance		Volt : 12
cm3/1000s, +-: Shutoff solenoid	8.0	1
Volt :	12	
Rated speed rpm :	1470	+ ELECTR. SHUTOFF + CONTROL LEVER, IDLE STOP
Aneroid pressure hPa :	1000	+
Del. quantity		+ Aneroid pressure
cm3/1000 strokes : Check tolerance	1.5	+ hPa : 1000 + Del. quantity
cm3/1000s. +-:	1.5	+ cm3/1000 strokes : 1.5
Shutoff solenoid Volt :	12	+ Tolerance + cm3/1000 str. +-: 1.5
Rated speed rpm :	500	+ Check tolerance + cm3/1000s. +-: 1.5
Aneroid pressure		+ Spread
hPa : Del. quantity	250	cm3/1000 strokes : 5.0
cm3/1000 strokes : Tolerance	63.5	FULL-LOAD STOP CONTROL LEVER
cm3/1000 str. + :	0.5	Rated speed rpm : 335
Check tolerance cm3/1090s. +-:	5.0	+ Aneroid pressure - hPa : 1909
Shutoff solenoid		Del. quantity
Volt :	12	cm3/1000 strokes : 1.5 + Tolerance
Rated speed rpm : Aneroid pressure	1250	cm3/1000 str. + : 1.5 + Spread
hPa :	1000	+ cm3/1000 strokes : 5.0
Del. quantity cm3/1000 strokes :	65.0	+ Check tolerance + cm3/1000s. +-: 1.5
Tolerance cm3/1000 str. +-:	1.5	+ Spread + cm3/1000 strokes : 5.0
Check tolerance		+
cm3/1000s. + : Shutoff solenoid	3.5	IDLE DELIVERY
Volt :	12	Rated speed rom : 400
Rated speed rpm :	350	+ Del. quantity + cm3/1000 strokes : 1.5
Aneroid pressure hPa :	1000	+ Tolerance + cm3/1000 str. +-: 1.5
Del. quantity		+ Check tolerance
cm3/1000 strokes : Check tolerance	78.5	+ cm3/1000S. +: 1.5 + Shutoff solenoid
cm3/1000s. +-: Shutoff solenoid	3.5	† Volt : 12
Volt :	12	Rated speed rpm : 275
Rated speed rpm :	750	+ Del. quantity + cm3/1000 strokes : 24.0
Aneroid pressure hPa :	1000	+ Tolerance + cm3/1000 str. +-: 3.0
Del. quantity		+ Check tolerance
cm3/1000 strokes :	74.5	+ cm3/1000s. +-: 5.0
		•

Shutoff solenoid Volt 12

START TRANSITION

Rated speed rpm : 250

Del. quantity cm3/1000 strokes : 58.0

Tolerance

cm3/1000 str. + :5.0

Shutoff solenoid

Volt 12

Rated speed rpm : 130

Del. quantity

cm3/1000 strokes : 95.0

Tolerance

cm3/1000 str. +-: 15.0

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3 Tolerance mm + : 0,1 Dimension KF mm : 6,4 Tolerance mm +: 0,2

Dimension MS mm : 1,1 Tolerance mm + : 0,2

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14,03,97 Test oil : ISO 4113

: 0 460 424 160 Part no. Pump designation: VE4/12F1050R378-11

Customer-spec. information Customer : CUMMINS Motor : 4 BT 3.9 L.

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

bar 250 Tolerance bar + :

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,8 Outlet |

Prestroke

(as of UT) mm : 0,3 Tolerance mm + : 0.02

Check

tolerance mm + : 0.04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 900

Setting mm 2.0 Tolerance mm 0.2 Shutoff solenoid Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 900 Supply pomp

pressure bar 5.2 Tolerance bar + : 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 900 Del. quantity cm3/1000 strokes : 73.0

Tolerance cm3/1000 str. +-:0.5

Spread

cm3/1000 strokes : 4.0

Shutoff solenoid

Volt 12

IDLE SETTING

Rated speed rpm 375 Del. quantity

cm3/1000 strokes : 11.0 Tolerance

cm3/1000 str. +:

3.0 Shutoff solenoid Volt 12

Spread cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. 7.0

FULL-LOAD SPEED REGULATION	+ Shutoff solenoid + Volt : 12
Rated speed rpm : 1100 Del. quantity	OVERFLOW QUANTITY
<pre>cm3/1000 strokes : 59.0 Tolerance cm3/1000 str. +-: 3.0</pre>	+ Rated speed rpm : 1050 + Overflow quantity
Shutoff solenoid Volt : 12	ccm/10s : 72.2
STARTING FUEL DELIVERY	ccm/10s +-: 27.7
Rated speed rpm : 100	Check tolerance ccm/10s +: 27.7
Del. quantity cm3/1000 strokes : 103.0	- Shutoff solenoid
Tolerance cm3/1000 str. +-: 25.0	+
Shutoff solenoid Volt : 12	Overflow quantity
vott : 12	ccm/10s : 50.0 Tolerance
	ccm/10s + : 16.6
TALIFOTION DUMP TOOT OPECIFYCATIONS	theck tolerance ccm/10s +: 16.6
INJECTION-PUMP TEST SPECIFICATIONS	Shutoff solenoid : 12
TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm : 1050	Rated speed rpm : 1100
SV travel mm : 2.8 Tolerance mm +-: 0.6	+ Del. quantity + cm3/1000 strokes : 59.0
Check tolerance mm + : 0.7	+ Tolerance + cm3/1000 str. +-: 3.0
Shutoff solenoid Volt : 12	+ Check tolerance + cm3/1000s. +-: 6.0
Rated speed rpm : 750	+ Shutoff solenoid + Volt : 12
SV travel mm : 1.1	Rated speed rpm : 1150
Tolerance mm + : 0.6 Check tolerance mm + : 0.7	+ Del. quantity + cm3/1000 strokes : 19.5 + Check tolerance
Shutoff solenoid	- cm3/1000s. + : 20.0 - Shutoff solenoid
VOLT: 12 SUPPLY PUMP PRESSURE CHARACTERISTIC	Volt : 12
	Rated speed rpm : 1190
Supply pomp	Del. quantity cm3/1000 strokes : 1.5
pressure bar : 6.2 Tolerance bar +: 0.5 Shitteff coloraid	Tolerance cm3/1000 str. +: 1.5
Shutoff solenoid Volt : 12	- Check tolerance - cm3/1000S. + : 1.5 - Shutoff solenoid
Rated speed rpm : 400	Volt : 12
Supply pomp pressure bar : 2.4	Rated speed rpm : 1050
Tolerance bar + : 0.5	+ Del. quantity + cm3/1000 strokes : 70.8

Tolerance		ı	Nal minutati	
cm3/1000 str. +-	: 2.5	T	Del. quantity cm3/1000 strokes	: 1.5
Check tolerance	. 2.5	Ť	Tolerance	: 1.5
cm3/1000s. +-	: 3.0	Ţ	cm3/1000 str. +-	: 1.5
Shutoff solenoid	. 5.0	I	Check tolerance	. 1.5
Volt	: 12	I	cm3/1000s. +-	: 1.5
10(1	. , , ,	I	Spread	. 1.5
Rated speed rpm	: 750	1	cm3/1000 strokes	: 5.0
Del. quantity	. , , , ,	1	CMD/ 1000 3 ET ORCS	
cm3/1000 strokes	: 78.0	1	FULL-LOAD STOP COM	JTROL LEVER
Tolerance		1	1022 20/10 0101 001	THOE ELVEN
cm3/1000 str. +-	: 3.0	1	Rated speed rpm	: 375
Check tolerance		1	Del. quantity	
cm3/1000s. +-	: 4.0	1	cm3/1000 strokes	: 1.5
Shutoff solenoid		1	Tolerance	
Volt	: 12	+	cm3/1000 str. +-	: 1.5
		+	Spread	
Rated speed rpm	: 400	+	cm3/1000 strokes	: 5.0
Del. quantity		+	Check tolerance	
cm3/1000 strokes	: 72.9	+	cm3/1000s. +-	: 1.5
Tolerance		+	Spread	
cm3/1000 str. +-	: 4.0	+	cm3/1000 strokes	: 5.0
Check tolerance		+		
cm3/1000s. +-	: 6.0	+	IDLE DELIVERY	
Shutoff solenoid		+		
Volt	: 12	+	Rated speed rpm	: 500
		+	Del. quantity	
Rated speed rpm	: 900	+	cm3/1000 strokes	: 1.5
Del. quantity	A	+	Tolerance	
cm3/1000 strokes	: 73.0	†	cm3/1000 str. +-	: 1.5
Tolerance	. 0.5	†	Check tolerance	4.5
cm3/1000 str. +	: 0.5	†	cm3/1000s. +	: 1.5
Check tolerance	. 70	†	Shutoff solenoid	40
cm3/1000s. +-	: 3.0	†	Volt	: 12
Shuroff solenoid Volt	: 12	†	Dated amond ann	. /00
VOLT	, 12	T	Rated speed rpm	: 400
			Del. quantity cm3/1000 strokes	: 8.0
MECHANICAL SHUTOFF		I	Tolerance	: 8.0
PIECHAITCHE SHOTOFF		I	cm3/1000 str. +-	: 6.0
Rated speed rpm	: 1050	I	Shutoff solenoid	. 0.0
Del. quantity	. 1050	1	Volt	: 12
cm3/1000 strokes	: 1.5	1	7500	
Tolerance		1	Rated speed rpm	: 300
cm3/1000 str. +	: 1.5	1	Del. quantity	
Spread		1	cm3/1000 strokes	: 42.0
cm3/1000 strokes	: 5.0	1	Tolerance	
Check tolerance		<u> </u>	cm3/1000 str. +	: 6.0
cm3/1000s. +-	: 1.5	+	Shutoff solenoid	
Spread		+	Volt	: 12
cm3/1000 strokes	: 5.0	+		
Shutoff solenoid		+		
Volt	: 12	+		
		+		
EL PATE ALL TARE		+		
ELECTR. SHUTOFF	C CTAR	†	OTANT TRANSPORTER	
CONTROL LEVER, IDL	E 810P	†	START TRANSITION	
Dakad	. 770	†	Dadad amazzi	. 250
Rated speed rpm	: 375	†	Rated speed rpm	: 250
		+		

Del. quantity

cm3/1000 strokes : 71.5

Tolerance

cm3/1000 str. +:8.0

Shutoff solenoid

Volt 12

Rated speed rpm 160

Del. quantity cm3/1000 strokes : 117.0

Tolerance

cm3/1000 str. +: 20.0

Shutoff solenoid

Volt 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm Tolerance mm + : 0,2 Dimension MS mm : 1,1 Tolerance mm +: 0,2

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

: 39,5..45,1 position YB mm

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 12.03.97 Test oil : ISO 4113

Part no. : 0 460 484 070 Pump designation : VE4/8F2300R425-6

Customer-spec. information

Customer : PSA

Motor : XUD9AY/L3 Cit.ZX

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C + : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar +-: 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar + : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,3 Outlet : A

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm : 3.5 Tolerance mm +-: 0.2

Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Supply pomp

pressure bar : 6.0 Tolerance bar +-: 0.3

Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 30.2

Tolerance

cm3/1000 str. +-: 0.5

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt : 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 str. + : 0.5

Shutoff solenoid

Volt : 12

IDLE DELIVERY

Rated speed rpm : 400

Del. quantity cm3/1000 strokes : 13.0

Tolerance

cm3/1000 str. + : 1.0

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt : 12

HIGH IDLE SETTING	Rated speed rpm : 800
Rated speed rpm : 475	+ SV travel mm : 0.8
Del. quantity	+ Tolerance mm +: 0.4
cm3/1000 strokes : 9.5	+ Check
Tolerance	tolerance mm +: 0.7
cm3/1000 str. +: 1.0	+ Shutoff solenoid
Shutoff solenoid	+ Volt : 12
Volt : 12	CURRY BUMB BRECOURE CHARACTER TOTAL
FULL-LOAD SPEED REGULATION	SUPPLY PUMP PRESSURE CHARACTERISTIC
LOFE FOUR SLEER KERRENITOIA	Rated speed rpm : 2200
Rated speed rpm : 2650	Supply pomp
Del. quantity	pressure bar : 8.5
cm3/1000 strokes : 11.0	+ Tolerance bar +: 0.3
Tolerance	+ Shutoff solenoid
cm3/1000 str. + : 2.0	+ Volt : 12
Shutoff solenoid	† p
Volt : 12	Rated speed rpm : 500
	+ Supply pomp + pressure bar : 3.6
SET GRADUATED STARTING DELIVERY	Tolerance bar +: 0.3
CONTROL LEVER, IDLE STOP	+ Shutoff solenoid
	+ Volt : 12
Rated speed rpm : 100	+
Del. quantity	+ OVERFLOW QUANTITY
cm3/1000 strokes : 47.0	
Tolerance	Rated speed rpm : 2200
cm3/1000 str. + : 1.0 Shutoff solenoid	+ Overflow quantity + ccm/10s : 97.2
Volt : 12	+ ccm/10s : 97.2 + Tolerance
• 12	+ ccm/10s + : 41.6
	+ 1.0
LOAD-DEPENDENT START OF DELIVERY	+ Check tolerance
SETTING	+ ccm/10s +: 55.5
	+ Shutoff solenoid
PRESSURE DIFFERENCE	+ Volt : 12
Reted speed rpm : 1250	Detail aread non . 500
Reted speed rpm : 1250 Del. quantity	+ Rated speed rpm : 500 + Overflow quantity
cm3/1000 strokes : -0.2	- ccm/10s : 63.8
Tolerance	+ Tolerance
cm3/1000 str. + : 0.1	+ ccm/10s +: 22.2
Shutoff solenoid	+
Volt : 12	+ Check tolerance
	+ ccm/10s +: 34.7
THIRCTION CHIND TECT COPCLETCATIONS	+ Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATIONS	† Volt : 12
TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
ITHING PEATOR CHANNOL CHIEFT	+ DEELYEN AND DICARAWAT CHARACTERISTIC
Rated speed rpm : 2000	+ Rated speed rpm : 2650
	+ Del. quantity
SV travel mm : 7.6	+ cm3/1000 strokes : 11.0
Tolerance mm + : 0.4	+ Tolerance
Check	+ cm3/1000 str. + : 2.0
tolerance mm +-: 0.7 Shutoff solenoid	+ Check tolerance + cm3/1000s. +: 4.0
Volt : 12	+ cm3/1000s. +: 4.0
, ,	ı

Shutoff solenoid Volt	. 12	† Tolerance
	: 12	cm3/1000 str. + : 1.5 Check tolerance
Rated speed rpm : Del. quantity	: 2500	+ cm3/1000s. +-: 1.5 + Shutoff solenoid
cm3/1000 strokes : Tolerance	22.5	Volt : 12
cm3/1000 str. +- :	3.0	TI FOTO CHUTOTT
Check tolerance cm3/1000S. +-: Shutoff solenoid	5.0	ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP
Volt	: 12	Rated speed rpm : 400
Rated speed rpm :	2900	t Del. quantity cm3/1000 strokes : 1.5 Tolerance
cm3/1000 strokes	: 1.5	cm3/1000 str. +: 1.5 Check tolerance
cm3/1000 str. +-: Check tolerance	: 1.5	cm3/1000s. +-: 1.5
cm3/1000s. +-: Shutoff solenoid	: 1.5	‡
Volt	: 12	‡
Rated speed rpm : Del. quantity	: 2200	
cm3/1000 strokes : Tolerance	33.0	CHECKING LOAD-DEPENDENT START OF DELIVERY
cm3/10CO str. + : Check tolerance	: 1.0	DELIVERY DIFFERENCE
cm3/1000s. +- :	2.2	+
Shutoff solenoid volt	: 12	+ Rated speed rpm : 1250 + Del. quantity
Rated speed rpm :	: 500	+ cm3/1000 strokes : 24.5 + Tolerance
Del. quantity cm3/1000 strokes		cm3/1000 str. + : 3.0 Check tolerance
Tolerance cm3/1000 str. +-:		cm3/1000s. +: 3.0 Shutoff solenoid
Check tolerance		+ Volt : 12
cm3/1000s. +-: Shutoff solenoid		DELIVERY DIFFERENCE
Volt	: 12	Rated speed rpm : 1250
Rated speed rpm : Del. quantity	1250	Del. quantity cm3/1000 strokes : 5.0
cm3/1000 strokes : Tolerance		Tolerance - cm3/1000 str. +: 3.0
cm3/1000 str. +- : Check tolerance	0.5	+ Check tolerance + cm3/1000s. +-: 3.0
cm3/1000s. + : Shutoff solenoid	2.2	- Shutoff solenoid - Volt : 12
Volt :	: 12	+
		TIMING-DEVICE TRAVEL DIFFERENCE
MECHANICAL SHUTOFF		Rated speed rpm : 1250 Tolerance mm + : 0.1
Rated speed rpm : Del. quantity	2200	Check tolerance mm + : 0.3
cm3/1000 strokes	: 1.5	Shutoff solenoid Volt : 12

DELIVERY DIFFERENCE

Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 24.5 Tolerance cm3/1000 str. + :3.0

Check tolerance cm3/1000s. 3.0

Shutoff solenoid

12 Volt

TIMING-DEVICE TRAVEL DIFFERENCE

1250 Rated speed rpm : Tolerance mm 0.1 Check 0.1 tolerance mm Shutoff solenoid 12

EXHAUST-GAS RECIRCULATION

Rated speed rpm 1000 Del. quantity cm3/1000 strokes : 21.4 Tolerance cm3/1000 str. + :1.0 Check tolerance cm3/1000s. 4.0 Shutoff solenoid

12

START TRANSITION

350 Rated speed rpm Del. quantity cm3/1000 strokes : 30.0

Tolerance

Volt

cm3/1000 str. + :10.0 Shutoff solenoid

Valt

12

Rated speed rpm 225

Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 str. +-: 17.0

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7 + : 0,1 Tolerance mm Dimension KF mm : 6,0 Tolerance mm +-:0,2Dimension MS mm : 1,4 Tolerance mm +-: 0,1

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.03.97 Test oil : ISO 4113

Part no. : 0 460 484 093 Pump designation : VE4/8F2300R425-9

Customer—spec. information Customer : PSA

Motor : XUD9AY-L3 Cit.ZX

Power KW : 51.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C +-: 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar + : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x Length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,3 Outlet : A

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm : 3.5
Tolerance mm + : 0.2
Shytoff coloraid

Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Supply pomp

pressure bar : 6.0 Tolerance bar + : 0.3

Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 30.2

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt : 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 str. + : 0.5

Shutoff solenoid

Volt : 12

IDLE DELIVERY

Rated speed rpm : 400

Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 str. + : 1.0

Spread

cm3/1000 strokes : 2.0

cm3/1000 strokes : Shutoff solenoid

Volt : 12

	+
HIGH IDLE SETTING	Rated speed rpm : 800
Rated speed rpm : 475	+ SV travel mm : 0.8
Del. quantity	+ Tolerance mm + : 0.4
cm3/1000 strokes : 9.5	+ Check
Tolerance	tolerance mm + : 0.7
cm3/1000 str. + : 1.0	+ Shutoff solenoid
Shutoff solenoid	+ Volt : 12
Volt : 12	+
	+ SUPPLY PUMP PRESSURE CHARACTERISTIC
FULL-LOAD SPEED REGULATION	+
	+ Rated speed rpm : 2200
Rated speed rpm : 2650	+ Supply pomp
Del. quantity	+ pressure bar : 8.5
cm3/1000 strokes : 11.0	+ Tolerance bar +: 0.3
Tolerance	+ Shutoff solenoid
cm3/1000 str. +: 2.0	+ Volt : 12
Shutoff solenoid Volt : 12	Detail made and 500
Volt : 12	Rated speed rpm : 500
	+ Supply pomp + pressure bar : 3.5
SET GRADUATED STARTING DELIVERY	pressure bar : 3.5 Tolerance bar +: 0.3
CONTROL LEVER, IDLE STOP	+ Shutoff solenoid
CONTROL LEVERY IDLE STOP	+ Volt : 12
Rated speed rpm : 100	I vocc . 12
Del. quantity	T OVERFLOW QUANTITY
cm3/1000 strokes : 47.0	T OVERTEON GONITITI
Tolerance	Rated speed rpm : 2200
cm3/1000 str. +-: 1.0	+ Overflow quantity
Shutoff solenoid	+ ccm/10s : 97.2
Volt : 12	+ Tolerance
, , ,	+ ccin/1Gs +: 41.6
	+
LOAD-DEPENDENT START OF DELIVERY	+ Check tolerance
SETTING	+ ccm/10s +-: 55.5
	+ Shutoff solenoid
PRESSURE DIFFERENCE	+ Volt : 12
	+
Rated speed rpm : 1250	+ Rated speed rpm : 500
Del. quantity	+ Overflow quantity
cm3/1000 strokes : -0.2	+ ccm/10s : 63.8
Tolerance	† Tolerance
cm3/1000 str. + : 0.1	+ ccm/10s + : 22.2
Shutoff solenoid Volt : 12	Check tolerance
Volt : 12	+ ccm/10s + : 34.7
	+ Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATIONS	+ Volt : 12
210201201101111201	1
TIMING DEVICE CHARACTERISTIC	+ DELIVERY AND BREAKAWAY CHARACTERISTIC
	+
Rated speed rpm : 2000	Rated speed rpm : 2650
	+ Del. quantity
SV travel mm : 7.6	+ cm3/1000 strokes : 11.0
Tolerance mm + : 0.4	+ Tolerance
Check	+ cm3/1000 str. +-: 2.0
tolerance mm + : 0.7	+ Check tolerance
Shutoff solenoid	+ cm3/1000s. +-: 4.0
Volt : 12	+

Shutoff solenoid		+ Tolerance
Volt :	12	+ cm3/1000 str. + : 1.5 + Check tolerance
Rated speed rpm : Del. quantity	2500	+ cm3/1000s. +-: 1.5 + Shutoff solenoid
cm3/1000 strokes : Tolerance	22.5	+ Volt : 12
cm3/1000 str. +-:	3.0	
Check tolerance cm3/1000s. +:	5.0	+ ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP
Shutoff solenoid Volt :	12	Rated speed rpm : 400
Rated speed rpm :	2900	Del. quantity cm3/1000 strokes : 1.5
Del. quantity cm3/1000 strokes :	1.5	Tolerance - cm3/1000 str. +: 1.5
Tolerance cm3/1000 str. +-:	1.5	+ Check tolerance + cm3/1000s. +-: 1.5
Check tolerance cm3/1000s. + :	1.5	‡
Shutoff solenoid Volt :	12	†
Rated speed rpm :	2200	-
Del. quantity cm3/1000 strokes :	33.0	CHECKING LOAD-DEPENDENT
Tolerance cm3/1000 str:	1.0	+ START OF DELIVERY
Check tolerance cm3/1000s. +:	2.2	+ DELIVERY DIFFERENCE
Shutoff solenoid Volt :	12	+ Rated speed rpm : 1250 + Del. quantity
	500	+ cm3/1000 strokes : 24.5 + Tolerance
Del. quantity cm3/1000 strokes :	31.3	+ cm3/1000 str. + : 3.0 + Check tolerance
Tolerance cm3/1000 str. +-:	1.5	+ cm3/1000s. $+$: 3.0 Shutoff solenoid
Check tolerance cm3/1000s. +-:	3.0	+ Volt : 12
Shutoff solenoid Volt :	12	DELIVERY DIFFERENCE
Rated speed rpm :		+ Rated speed rpm : 1250 + Del. quantity
Del. quantity cm3/1000 strokes :		- cm3/1000 strokes : 5.0 - Tolerance
Tolerance cm3/1000 str. +-:		- cm3/1000 str. +-: 3.0 - Check tolerance
Check tolerance cm3/1000s. +-:	2.2	- cm3/1000s. +-: 3.0 - Shutoff solenoid
Shutoff solenoid Volt :	12	Volt : 12
	16	TIMING-DEVICE TRAVEL DIFFERENCE
MECHANICAL SHUTOFF		Rated speed rpm : 1250 Tolerance mm +-: 0.1
Rated speed rpm :	2200	+ Check
Del. quantity cm3/1000 strokes :	1.5	tolerance mm +-: 0.3 Shutoff solenoid
		+ Volt : 12

DELIVERY DIFFERENCE

Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 24.5 Tolerance cm3/1000 str. +-:3.0 Check tolerance cm3/1000s. 3.0

Shutoff solenoid

Volt

TIMING-DEVICE TRAVEL DIFFERENCE

0.1

Rated speed rpm : Tolerance mm :-: 0.1 Check

tolerance mm +-: Shutoff solenoid

12

EXHAUST-GAS RECIRCULATION

Rated speed rpm 1000 Del. quantity

cm3/1000 strokes : 21.4

Tolerance

cm3/1000 str. + :1.0

Check tolerance

cm3/1000s. 4.0

Shutoff solenoid

12 Volt

START TRANSITION

350 Rated speed rom Del. quantity cm3/1000 strokes :

30.0 Tolerance

cm3/1000 str. +-:10.0

Shutoff solenoid

Volt 12

Rated speed rpm 225

Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 str. + :17.0

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7 Tolerance mm +: 0.1Dimension KF mm : 6.0 Tolerance mm +-:0.2Dimension MS mm : 1,4 Tolerance mm

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 17.01.95 : ISO 4113 Test oil : 0 460 416 077 Part no. Pump designation : VE6/11F1300L583 Customer-spec. information Customer : VM : D706 LT Motor TEST BENCH REQUIREMENTS Overflow restriction mm 0.75 : Inlet press. bar : 0.35 Tolerance bar +-: 0.05 Test nozzle holde : 1 688 901 110 assembly Opening pressure 250 Tolerance bar +-: : 1 680 750 000 Test Lines Outside diameter : 6.00 x inside diameter : 2.00 x length mm 840 **REMARKS**

INJECTION PUMP SETTING VALUES

1200

1200

TIMING DEVICE TRAVEL

Rated speed rpm

Aneroid pressure

Setting mm Tolerance mm +- Shutoff solenoid	:	2.6 0.2	
Volt	:	12	
SUPPLY PUMP PRESSU	JRE		
Rated speed rpm Aneroid pressure	:	1200	
hPa Supply pomp	:	1200	
pressure bar Tolerance bar +	:	7.9 0.3	
Shutoff solenoid Volt	:	12	
FULL-LOAD DELIVERY			PRESSURE
Rated speed rpm	:	1000	, KEOOOKE
Aneroid pressure	:	1200	
Del. quantity cm3/1000 strokes	:	65.0	
Tolerance cm3/1000 str. +-	:	0.5	
Spread cm3/1000 strokes	:	4.0	
Check tolerance cm3/1000s.	:	4.0	
Shutoff solenoid Volt	:	12	
FULL-LOAD DELIV. W	VITH (OUT BOOST	PRESSURE
Rated speed rpm	:	600	
Del. quantity cm3/1000 strokes	:	43.0	
Tolerance cm3/1000 str. +-	:	0.5	
Shutoff solenoid Volt	:	12	
Check tolerance cm3/1000s.	:	4.0	
IDLE SETTING			
Rated speed rpm Del. quantity	:	325	
cm3/1000 strokes Tolerance	:	13.0	
cm3/1000 str. +- Shutoff solenoid	:	2.0	
Volt Spread	:	12	
cm3/1000 strokes	:	5.0	

5.0

Check tolerance

cm3/1000s.

hPa

FULL-LOAD SPEED REGULATION

Rated speed rpm	:	1450
Pressure hPa	:	1200
Del. quantity		
cm3/1000 strokes	:	38.0
Tolerance		
cm3/1000 str. +-	:	2.0
Shutoff solenoid		
Volt	:	12

STARTING FUEL DELIVERY

Rated speed rpm	:	100
Del. quantity cm3/1000 strokes	:	45.0
Tolerance cm3/1000 str. +-	:	20.0
Shutoff solenoid Volt	:	îä

LOAD-DEPENDENT START OF DELIVERY SETTING

DELIVERY DIFFERENCE

	:	1200
Del. quantity cm3/1000 strokes		-12.0
Tolerance	•	_
cm3/1000 str. +- Shutoff solenoid	:	1.0
Volt	:	12

PRESSURE DIFFERENCE

	•	1200
Del. quantity cm3/1000 strokes	•	-0.2
Tolerance cm3/1000 str. +	:	0.1
Shutoff solenoid Volt	:	12

TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm Del. quantity	:	1200
cm3/1000 strokes	:	-1.0
Tolerance	•	,,,_
cm3/1000 str. +	:	0.1
Shutoff solenoid		12
Volt		12

INJECTION-PUMP TEST SPECIFICATIONS

TIMING DEVICE CHARACTERISTIC

Rated speed rpm Aneroid pressure	:	1300
hPa	:	1200
SV travel mm Tolerance mm +- Check	:	3.1 0.4
tolerance mm +- Shutoff solenoid	:	0.9
Volt	:	12
Rated speed rpm	:	1000
Rated speed rpm Aneroid pressure hPa	:	1000 1200
Aneroid pressure hPa SV travel mm Tolerance mm +		
Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm +	•	1200
Aneroid pressure hPa SV travel mm Tolerance mm + Check	:	1200 1.7 0.4

SUPPLY PUMP PRESSURE CHARACTERISTIC

SUPPLY PUMP PRESSU	JRE	CHARACTI
Rated speed rpm Aneroid pressure	:	1300
hPa	:	1200
Supply pomp pressure bar Tolerance bar +	:	8.3 0.3
Shutoff solenoid Volt	:	12
Rated speed rpm Aneroid pressure	:	600
hPa	:	1200
Supply pomp pressure bar Tolerance bar + Shutoff solenoid	:	5.5 0.3
Volt	:	12
OVERFLOW QUANTITY		
Rated speed rpm	:	1300
Aneroid pressure hPa Overflow quantity	:	1200

Rated speed rpm : 1300 Aneroid pressure hPa : 1200 Overflow quantity ccm/10s : 138.8 Tolerance ccm/10s + : 41.6 Check tolerance

Check tolerance		
ccm/10s +-	:	41.6
Shutoff solenoid		
Volt	:	12

Rated speed rpm	: 600	+		
Aneroid pressure	4200	+	Rated speed rpm :	1300
hPa Overflow quantity	: 1200	1	Aneroid pressure hPa :	1200
ccm/10s	: 125.0	Ţ	Del. quantity	1200
Tolerance		+	cm3/1000 strokes :	65.0
ccm/10s +-	: 22.2	t	Tolerance	2.0
Check tolerance		İ	cm3/1000 str. + : Check tolerance	2.0
ccm/10s +	: 22.2	Ţ	cm3/1000s. +:	3.5
Shutoff solenoid		+	Shutoff solenoid	
Volt	: 12	+	Volt :	12
DELIVERY AND ROEAL	KAWAY CHARACTERISTIC	İ	Rated speed rpm :	800
ACCTACU! WAS DUCKE	CHAMI CHARACTERIZOTEC	Ţ	Aneroid pressure	800
Rated speed rpm	: 1450	+	hPa :	1200
Aneroid pressure	. 1200	†	Del. quantity	// 5
hPa Del. quantity	: 1200	İ	cm3/1000 strokes : Tolerance	64.5
cm3/1000 strokes	: 38.0	Ţ	cm3/1000 str. +-:	3.5
Tolerance		+	Check tolerance	
cm3/1000 str. +	: 2.0	+	cm3/1000s. +-:	5.0
Check tolerance cm3/1000s. +-	: 6.0	İ	Shutoff solenoid Volt :	12
Shutoff solenoid	. 0.0	1		16
Volt	: 12	+	Rated speed rpm :	600
Detack areast are	. 1500	†	Aneroid pressure	4200
Rated speed rpm Aneroid pressure	: 1500	Ī	hPa : Del. quantity	1200
hPa	: 1200	+	cm3/1000 strokes :	73.0
Del. quantity		+	Tolerance	
cm3/1000 strokes Check tolerance	: 20.0	†	cm3/1000 str. +:	2.0
cm3/1000s. +-	: 10.0	I	Check tolerance cm3/1000s. +-:	3. 5
Shutoff solenoid		+	Shutoff solenoid	
Volt	: 12	+	Volt :	12
Rated speed rpm	: 1600	İ	Rated speed rpm :	1000
Aneroid pressure	. 1000	I	Rated speed rpm : Aneroid pressure	1000
hPa	: 1200	+	hPa :	1200
Del. quantity	4 5	†	Del. quantity	(5.0
cm3/1000 strokes Tolerance	: 1.5	İ	cm3/1000 strokes : Tolerance	65.0
cm3/1000 str. +	: 1.5	1	cm3/1000 str. +-:	0.5
Check tolerance		+	Check tolerance	
cm3/1000s. +-	: 1.5	†	cm3/1000s. +:	3.0
Shutoff solenoid Volt	: 12	Ī	Shutoff solenoid Volt :	12
VOCC	. 12	+	voct .	12
Rated speed rpm	: 600	+		
Aneroid pressure	. 550	†	ELECTR CHUTOEE	
hPa Del. quantity	: 550	Ī	ELECTR. SHUTOFF CONTROL LEVER, IDLE	STOP
cm3/1000 strokes	: 61.5	1	ANTITUDE PERFUT TAPE	V 1 V 1
Tolerance		+	Rated speed rpm :	325
cm3/1000 str. +-	: 0.5	†	Del. quantity	1 5
Check tolerance cm3/1000s. +-	: 3.0	Ī	cm3/1000 strokes : Tolerance	1.5
Shutoff solenoid		+	cm3/1000 str. +:	1.5
Volt	: 12	+		

Check tolerance cm3/1000s. + : 1.5	Tolerance mm +-: 0.4 Check
CIID7 (0003: F** , 1.3	tolerance mm + : 0.4 Shutoff solenoid
IDLE DELIVERY	Volt : 12
Rated speed rpm : 400 Del. quantity	START TRANSITION
cm3/1000 strokes : 1.5 Tolerance	+
cm3/1000 str. + : 1.5	+ Del. quantity
Check tolerance cm3/1000s. + : 1.5	cm3/1000 strokes : 35.0 Tolerance
Shutoff solenoid Volt : 12	+ cm3/1000 str. +-: 15.0 + Shutoff solenoid
	+ Volt : 1?
	Rated speed rpm : 200 Del. quantity
CHECKING LOAD-DEPENDENT START OF DELIVERY	cm3/1000 strokes : 80.0
DELIVERY DIFFERENCE	cm3/1000 str. + : 25.0 Shutoff solenoid
Rated speed rpm : 1200	+ Volt : 12
Del. quantity cm3/1000 strokes : -18.0	ASSEMBLY AND ADJUSTMENT DIMENSIONS
Tolerance cm3/1000 str. +- : 3.0	Dimension K mm : 3,3
Check tolerance cm3/1000s. +-: 4.0	Tolerance mm + : 0,1 Dimension KF mm : 6,4
Shutoff solenoid Volt : 12	Tolerance mm. + : 0,2 MS1 dimension mm : 1,15
TIMING-DEVICE TRAVEL DIFFERENCE	+ Tolerance mm +-: 0,15
Rated speed rpm : 1200	
Del. quantity cm3/1000 strokes : -1.0	+ CONTROL LEVER POSITION + SET
Tolerance cm3/1000 str. + : 0.1 Check tolerance	Control Lever
cm3/1000s. +: 0.1 Shutoff solenoid	position YA mm : 38,640,6
Volt : 12	Control lever position YB mm : 60,671,4
DELIVERY DIFFERENCE	
Rated speed rpm : 1200 Del. quantity	
cm3/1000 strokes : 1.5 Tolerance	End of test-specification sheet
cm3/1000 str. + : 1.5 Shutoff solenoid	<u> </u>
Volt : 12	‡
TIMING-DEVICE TRAVEL DIFFERENCE	
Rated speed rpm : 1200	+

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.04.97 Test oil : ISO 4113

Part no. : 0 460 426 241 Pump designation : VE6/12F1250R556-1

Customer-spec. information

Customer : PERKINS

Motor : Q20 Phaser 195Ti

Power KW : 150.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C + : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 027

Opening pressure

bar : 250 Tolerence bar + : 3

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 1,25 Outlet : C

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 900
Aneroid pressure
hPa : 1500

Setting mm : 1.8
Tolerance mm +-: 0.1
Shutoff solenoid
Volt : 24

SUPPLY PUMP PRESSURE

Rated speed rpm	:	900
Aneroid pressure		
hPa	:	1500
Supply pomp		
pressure bar	:	7.5
Tolerance bar +	:	0.3
Shutoff solenoid		
Volt	:	24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rom	:	900
Aneroid pressure		
hPa	:	1500
Del. quantity		
cm3/1000 strokes	:	90.0
Tolerance		
cm3/1000 str. +	:	0.5
Spread		
cm3/1000 strokes	:	5.0
Check tolerance		
cm3/1000s.	:	5.0
Shutoff solenoid		
Volt	:	24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm Del. quantity	:	500
cm3/1000 strokes	:	59.0
Tolerance cm3/1000 str. +	:	0.5
Shutoff solenoid Volt	:	24
Check tolerance		

cm3/1000s. : 5.0

IDLE SETTING

Rated speed rpm : 280

Del. quantity +	Check
cm3/1000 strokes : 13.0 +	tolerance mm + : 0.7
Tolerance +	Shutoff solenoid
cm3/1000 str. +-: 2.0 +	Volt : 24
Shutoff solenoid +	
Volt : 24	Rated speed rpm : 1250
Spread	Aneroid pressure
cm3/1000 strokes : 6.5	hPa : 1500
Check tolerance	
cm3/1000s. : 6.5	SV travel mm : 3.3
1	Tolerance mm + : 0.4
1	Shutoff solenoid
1	Volt : 24
1	
FULL-LOAD SPEED REGULATION	SUPPLY PUMP PRESSURE CHARACTERISTIC
	TOTAL TOTAL TRESOURE STREET
Rated speed rpm : 1400	Rated speed rpm : 1250
Pressure hPa : 1500 +	Aneroid pressure
Del. quantity	hPa : 1500
cm3/1000 strokes : 45.0	Supply pomp
Tolerance	
cm3/1000 str. + : 3.0	•
Shutoff solenoid	Shutoff solenoid
Volt : 24	Volt : 24
OTANTAIO PUR DEI TUENY	700
STARTING FUEL DELIVERY	Rated speed rpm : 700
100	Aneroid pressure
Rated speed rpm : 100	hPa : 1500
Del. quantity	Supply pomp
cm3/1000 strokes : 160.0	pressure bar : 6.4
Tolerance +	Tolerance bar + : 0.3
cm3/1000 str. + : 30.0 +	Shutoff solenoid
Shutufi solenoid +	Voit : 24
Volt : 24	
+	OVERFLOW QUANTITY
+	
+	Rated speed rpm : 500
+	Overflow quantity
	ccm/10s : 63.8
INJECTION-PUMP TEST SPECIFICATIONS +	Tolerance
+	ccm/10s + : 16.6
TIMING DEVICE CHARACTERISTIC +	
}	Check tolerance
Rated speed rpm : 1000	ccm/10s + : 16.6
Aneroid pressure +	Shutoff solenoid
hPa : 1500 +	Volt : 24
\	
SV travel mm : 2.7	Rated speed rpm : 1250
Tolerance mm +: 0.3 +	Aneroid pressure
Check	hPa : 1500
tolerance mm +: 0.7	Overflow quantity
Shutoff solenoid +	ccm/10s : 86.1
Volt : 24	Tolerance
1	ccm/10s + : 27.7
Rated speed rpm : 800	
Aneroid pressure	Check tolerance
hPa : 1500	ccm/10s +-: 27.7
I 1700	Shutoff solenoid
SV travel mm : 0.8	Volt : 24
Tolerance mm +-: 0.3	· L4
10terante (M) '-, U.J	

		+	Shutoff solenoid			
DELIVERY AND BREAKAW	AY CHARACTERISTIC	1	Volt	:	24	
Rated speed rpm : Aneroid pressure	1400	‡	Rated speed rpm Aneroid pressure	:	700	
hPa : Del. quantity	1500	‡	hPa Del. quantity	:	1500	
cm3/1000 strokes : Tolerance	45.0	‡	cm3/1000 strokes Tolerance	:	90.5	
cm3/1000 str. +-: Check tolerance	3.0	‡	cm3/1000 str. +- Check tolerance	:	3.0	
cm3/1000s. +-: Shutoff solenoid	6.0	‡	cm3/1000s. +- Shutoff solenoid	•	4.0	
Volt :	24	‡	Volt	:	24	
Rated speed rpm : Aneroid pressure	1350	‡	Rated speed rpm Aneroid pressure	:	900	
hPa : Del. quantity	1500	‡	hPa Del. quantity	:	1500	
cm3/1000 strokes : Tolerance	75.0	‡	cm3/1000 strokes Tolerance	:	90.0	
cm3/1000 str. +-: Check tolerance	15.0	‡	cm3/1000 str. +- Check tolerance	:	0.5	
cm3/1000s. +: Shutoff solenoid	15.0	‡	cm3/1000s. Shutoff solenoid	:	3.5	
Volt :	24	‡	Volt	:	24	
Rated speed rpm : Aneroid pressure	1480	‡	MECHANICAL SHUTOF	 F		
hPa : Del. quantity	1500	‡	Rated speed rpm	:	1250	
cm3/1000 strokes : Tolerance	1.5	‡	Aneroid pressure hPa	:	1500	
cm3/1000 str. + : Check tolerance	1.5	‡	Del. quantity cm3/1000 strokes	:	1.5	
cm3/1000s. +-: Shutoff solenoid	1.5	‡	Tolerance cm3/1000 str. +-	:	1.5	
Volt :	24	‡	Check tolerance cm3/1000s. +-	:	1.5	
Rated speed rpm : Aneroid pressure	700	‡	Shutoff solenoid Volt	:	24	
hPa : Del. quantity	700	‡				
cm3/1000 strokes : Tolerance	81.5	‡	ELECTR. SHUTOFF CONTROL LEVER, ID	LE ST	TOP	
cm3/1000 str. + : Check tolerance	0.5	‡	Rated speed rpm	:	280	
cm3/1000s. +-: Shutoff solenoid	3.5	Ŧ	Del. quantity cm3/1000 strokes	:	1.5	
Volt :	24	Ŧ	Tolerance cm3/1000 str. +-	:	1.5	
Rated speed rpm : Aneroid pressure	1250	Ŧ	Check tolerance cm3/1000s. +-	:	1.5	
hPa : Del. quantity	1500	Ŧ	FULL-LOAD STOP CON	NTROL	LEVER	
cm3/1000 strokes : Tolerance	91.5	Ŧ		:	280	
7/1/DOO - 1 - 1	2 5		N = 1			
cm3/1000 str. +-: Check tolerance cm3/1000s. +-:	2.5 3.5	‡	Del. quantity cm3/1000 strokes	:	1.5	

Tolerance cm3/1000 str. +-:1.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 1.5 IDLE DELIVERY Rated speed rpm : 400 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. 1.5 Shutoff solenoid 24 Volt START TRANSITION Rated speed rpm : 230 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 str. +-:20.0 Shutoff solenoid 24 Volt Rated speed rpm 130 Del. quantity 160.0 cm3/1000 strokes : Tolerance cm3/1000 str. +-: 30.0 Shutoff soleroid Volt 24 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm Tolerance mm + : 0,1 Dimension KF mm : 6,4 +: 0,2 Tolerance mm MS1 dimension mm: : 1,35 + : 0,15Tolerance mm

Control lever position YA mm : 37,2..39,2

Control lever

position YB mm : 44,9..53,5

End of test-specification sheet

SET

CONTROL LEVER POSITION

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16,04,97 Test oil : ISO 4113

: 0 460 416 049 Part no. Pump designation : VE6/11F1900L218-2

Customer-spec, information : PENTA **Customer** Motor : TMD 41 Power KW 110.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature *C : 45

Overflow

restriction mm C.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 Tolerance bar +-: 3

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0,3 Tolerance mm + : 0,02

Check

tolerance mm + : 0.04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1200

Aneroid pressure

1000 hPa

Setting mm 4.1 Tolerance mm 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm

Aneroid pressure

hPa 1000

Supply pomp

pressure bar 6.3 Tolerance bar ← : 0.3

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1500

Aneroid pressure

1000

Del. quantity

cm3/1000 strokes : 75.5

Tolerance

cm3/1000 str. +-:0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 5.0

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 650

Del. quantity

cm3/1000 strokes : 62.0

Tolerance

cm3/1000 str. + :0.5

Check tolerance

cm3/1000s. 5.0

IDLE SETTING

350 Rated speed rpm

Del. quantity

cm3/1000 strokes : 17.5

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 5.0

Charle halamanas		
Check tolerance cm3/1000S.	: 5.0	Aneroid pressure hPa : 1000 Supply pomp pressure bar : 5.3 Tolerance bar +-: 0.5
FULL-LOAD SPEED R	EGULATION	OVERFLOW QUANTITY
Rated speed rpm Pressure hPa	: 2050 : 1000	Rated speed rpm : 650 Overflow quantity
Del. quantity cm3/1000 strokes		ccm/10s : 63.8
Tolerance cm3/1000 str. +-		ccm/10s +: 16.6
STARTING FUEL DEL		Check tolerance ccm/10s +-: 16.6
Rated speed rpm Del. quantity	: 100	Rated speed rpm : 1900 Anaroid pressure
cm3/1000 strokes Tolerance	: 110.0	hPa : 1000 + Overflow quantity
cm3/1000 str. +-	: 25.0	ccm/10s : 80.5 Tolerance
		ccm/10s + : 22.2
INJECTION-PUMP TE	CT COCCIETOATIONS	Check tolerance ccm/10s + : 22.2
		DELIVERY AND BREAKAWAY CHARACTERISTIC
TIMING DEVICE CHA		Rated speed rpm : 2050
Rated speed rpm Aneroid pressure	: 800	Aneroid pressure hPa : 1000
hPa	: 1000	+ Del. quantity + cm3/1000 strokes : 17.5
	4	
SV travel mm Tolerance mm +-	: 1.3 : 0.6	Tolerance + cm3/1000 str. + : 0.5
Tolerance mm +- Check tolerance mm +- Rated speed rpm	: 0.6	cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 4.0
Tolerance mm +- Check tolerance mm +-	: 0.6	cm3/1000 str. +: 0.5 Check tolerance cm3/1000s. +: 4.0 Rated speed rpm : 2000 Aneroid pressure hPa : 1000
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa SV travel mm	: 0.6 : 0.7 : 1400	cm3/1000 str. +: 0.5 Check tolerance cm3/1000s. +: 4.0 Rated speed rpm : 2000 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 37.0
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa	: 0.6 : 0.7 : 1400 : 1000 : 4.9	cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 4.0 Rated speed rpm : 2000 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 37.0 Tolerance cm3/1000 str. + : 10.0
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check	: 0.6 : 0.7 : 1400 : 1000 : 4.9 : 0.6 : 0.7	<pre>cm3/1000 str. + : 0.5 Check tolerance cm3/1000S. + : 4.0 Rated speed rpm : 2000 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 37.0 Tolerance cm3/1000 str. + : 10.0 Check tolerance cm3/1000S. + : 10.0</pre>
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- SUPPLY PUMP PRESSI	: 0.6 : 0.7 : 1400 : 1000 : 4.9 : 0.6 : 0.7	<pre>cm3/1000 str. + : 0.5 Check tolerance cm3/1000S. + : 4.0 Rated speed rpm : 2000 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 37.0 Tolerance cm3/1000 str. + : 10.0 Check tolerance cm3/1000S. + : 10.0</pre>
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- SUPPLY PUMP PRESSI Rated speed rpm Aneroid pressure hPa	: 0.6 : 0.7 : 1400 : 1000 : 4.9 : 0.6 : 0.7 URE CHARACTERIST	cm3/1000 str. +: 0.5 Check tolerance cm3/1000s. +: 4.0 Rated speed rpm : 2000 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 37.0 Tolerance cm3/1000 str. +: 10.0 Check tolerance cm3/1000s. +: 10.0 Rated speed rpm : 2130 Aneroid pressure hPa : 1000 Del. quantity
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- SUPPLY PUMP PRESSI Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar	: 0.6 : 0.7 : 1400 : 1000 : 4.9 : 0.6 : 0.7 JRE CHARACTERIST: : 1900 : 1000 : 7.7	Check tolerance cm3/1000s. +: 0.5 Check tolerance cm3/1000s. +: 4.0 Rated speed rpm : 2000 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 37.0 Tolerance cm3/1000 str. +: 10.0 Check tolerance cm3/1000s. +: 10.0 Rated speed rpm : 2130 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Check tolerance
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- SUPPLY PUMP PRESSI Rated speed rpm Aneroid pressure hPa Supply pomp	: 0.6 : 0.7 : 1400 : 1000 : 4.9 : 0.6 : 0.7 URE CHARACTERISTI : 1900 : 1000	Check tolerance cm3/1000s. +: 0.5 Rated speed rpm : 2000 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 37.0 Tolerance cm3/1000 str. +: 10.0 Check tolerance cm3/1000s. +: 10.0 Check tolerance cm3/1000s. +: 10.0 Rated speed rpm : 2130 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5

Aneroid pressure hPa :	260 -	<u> </u>
LDA/		ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP
HBA stroke mm : Del. quantity	4.0	Rated speed rpm : 350
cm3/1000 strokes : Tolerance	67.5	Del. quantity cm3/1000 strokes : 1.5
cm3/1000 str. +-: Check tolerance	0.5	Tolerance - cm3/1000 str. +-: 1.5
cm3/1000s. +-:	3.0	- Check tolerance - cm3/1000s. +-: 1.5
Rated speed rpm : Aneroid pressure	1900	+ Spread - cm3/1000 strokes : 5.0
hPa : Del. quantity	1000	Shutoff solenoid Volt : 12
cm3/1000 strokes : Tolerance cm3/1000 str. ÷ :	70.0 - 2.5 -	TOLE DELIVEDY
Check tolerance cm3/1000s. +:	3.5	TIPLE DELIVERY Rated speed rpm : 450
Rated speed rpm :	800 -	+ Rated speed rpm : 450 + Del. quantity + cm3/1000 strokes : 1.5
Aneroid pressure	1000	Check tolerance cm3/1000s. + : 1.5
Del. quantity cm3/1000 strokes :	81.0	
Tolerance cm3/1000 str. +-:	2.5	+
Check tolerance cm3/1000s. +-:	3.0	†
Rated speed rpm :	1500 -	+ START TRANSITION
Aneroid pressure	1000	Rated speed rpm : 500 Del. quantity
Del. quantity cm3/1000 strokes : Tolerance	75.5	- cm3/1000 strokes : 70.0 - Tolerance - cm3/1000 str. +- : 15.0
cm3/1000 str. + : Check tolerance	0.5	- CIID/1000 Str: 15.0
cm3/1000s. +-:	2.5	Rated speed rpm : 300 Del. quantity
MECHANICAL SHUTOFF	-	cm3/1000 strokes : 110.0 Tolerance
Rated speed rpm :	1900 -	- cm3/1000 str. +-: 25.0
Aneroid pressure hPa : Del. quantity	1000	ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes : Tolerance	1.5	LDA/
cm3/1000 str. + :	1.5	HBA stroke mm : 4.0 Dimension KF mm : 5,4
cm3/1000 strokes : Check tolerance	5.0	Tolerance mm +-: 0,2 Dimension MS mm : 1,3
cm3/1000s. +-: Spread	1.5	Tolerance mm + : 0,2
cm3/1000 strokes :	5.0	İ

CONTROL LEVER POSITION SET

Control lever

position YA mm : 37,2..39,2

Control lever

position YB mm : 56,9..64,5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.04.97 Test oil : ISO 4113

Part no. : 0 460 426 218B Pump designation: VE6/12F1900L527B

Customer-spec. information Customer : PENTA Motor : TAMD 41 L

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 55 Tolerance °C +-:

Overflow

restriction mm 0.75

Inlet press. bar : 0.35Tolerance bar +: 0.05

Test nozzle holde

: 1 688 901 110 assembly

Opening pressure

bar 250 Tolerance bar + :

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0.3 Tolerance mm +-: 0,02

Check

tolerance mm +-: 0.04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1600

Aneroid pressure

hPa 1000

Setting mm 3.0 Tolerance mm 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm : 1600

Aneroid pressure

hPa 1000

Supply pomp

8.3 pressure bar Tolerance bar +-: 0.3

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1500

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 68.0

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 5.0

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 600

Del. quantity

cm3/1000 strokes : 47.0

Tolerance

cm3/1000 str. +: 0.5

Check tolerance

cm3/1000s. 5.0

IDLE SETTING

325 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 23.0

Tolerance

cm3/1000 str. + :2.0

Spread

7.0 cm3/1000 strokes :

Check tolerance +	Aneroid pressure
cm3/1000s. : 7.0	hPa : 1000 Supply pomp
\perp	pressure bar : 5.5
1	Tolerance bar + : 0.5
1	Total allea bal
FULL-LOAD SPEED REGULATION	OVERFLOW QUANTITY
Rated speed rpm : 2100	Rated speed rpm : 1500
Pressure hPa : 1500	Aneroid pressure
Del. quantity	hPa : 1000
cm3/1000 strokes : 50.0	Overflow quantity
Tolerance	ccm/10s : 166.6
cm3/1000 str. + : 3.0	Tolerance
+	ccm/10s +-: 27.7
STARTING FUEL DELIVERY	
+	Check tolerance
Rated speed rpm : 100	ccm/10s +-: 27.7
Del. quantity	
cm3/1000 strokes : 40.0	Rated speed rpm : 600
Tolerance	Aneroid pressure
cm3/1000 str. + : 20.0	hPa : 1000
+	Overflow quantity
+	ccm/10s : 138.8
+	Tolerance
+	ccm/10s + : 22.2
INJECTION—PUMP TEST SPECIFICATIONS +	Check tolerance
+	ccm/10s +-: 22.2
TIMING DEVICE CHARACTERISTIC	
+	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm : 1800 +	
Aneroid pressure	Rated speed rpm : 2100
	Rated speed rpm : 2100 Aneroid pressure
Aneroid pressure hPa : 1000	Rated speed rpm : 2100 Aneroid pressure hPa : 1500
Aneroid pressure hPa : 1000 SV travel mm : 4.3	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm +-: 0.6	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm +-: 0.6 Check	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm +-: 0.6	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 3.0
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm +-: 0.6 Check tolerance mm +-: 0.7 Rated speed rpm : 1250	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 3.0
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Rated speed rpm : 1250 Aneroid pressure	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +: 3.0 Check tolerance cm3/1000s. +: 8.0
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm +-: 0.6 Check tolerance mm +-: 0.7 Rated speed rpm : 1250	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm : 2200
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm : 2200 Aneroid pressure
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 3.0 Check tolerance cm3/1000s. +-: 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0 Tolerance mm + : 0.6	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0 Tolerance mm + : 0.6 Check	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 25.0
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0 Tolerance mm + : 0.6	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 25.0 Tolerance
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0 Tolerance mm + : 0.6 Check tolerance mm + : 0.7	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 str. + : 8.0
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0 Tolerance mm + : 0.6 Check	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 str. + : 8.0 Check tolerance
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 str. + : 8.0
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm +: 0.6 Check tolerance mm +: 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0 Tolerance mm +: 0.6 Check tolerance mm +: 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1800	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 3.0 Check tolerance cm3/1000s. +-: 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 str. +-: 8.0 Check tolerance cm3/1000s. +-: 15.0
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1800 Aneroid pressure	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 3.0 Check tolerance cm3/1000s. +-: 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 str. +-: 8.0 Check tolerance cm3/1000s. +-: 15.0 Rated speed rpm : 2300
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1800 Aneroid pressure hPa : 1000	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 3.0 Check tolerance cm3/1000s. +-: 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 str. +-: 8.0 Check tolerance cm3/1000s. +-: 15.0 Rated speed rpm : 2300 Aneroid pressure
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1800 Aneroid pressure hPa : 1000 Supply pomp	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 3.0 Check tolerance cm3/1000s. +-: 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 str. +-: 8.0 Check tolerance cm3/1000s. +-: 15.0 Rated speed rpm : 2300 Aneroid pressure hPa : 1500
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1800 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 8.9	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 3.0 Check tolerance cm3/1000s. +-: 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 str. +-: 8.0 Check tolerance cm3/1000s. +-: 15.0 Rated speed rpm : 2300 Aneroid pressure hPa : 1500 Del. quantity
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1800 Aneroid pressure hPa : 1000 Supply pomp	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 3.0 Check tolerance cm3/1000s. +-: 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 str. +-: 8.0 Check tolerance cm3/1000s. +-: 15.0 Rated speed rpm : 2300 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 1500 Del. quantity cm3/1000 strokes : 1.5
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm +-: 0.6 Check tolerance mm +-: 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0 Tolerance mm +-: 0.6 Check tolerance mm +-: 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1800 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 8.9 Tolerance bar +-: 0.5	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 3.0 Check tolerance cm3/1000s. +-: 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 str. +-: 8.0 Check tolerance cm3/1000s. +-: 15.0 Rated speed rpm : 2300 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 15.0 Rated speed rpm : 2300 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0 Tolerance mm + : 0.6 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1800 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 8.9	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 3.0 Check tolerance cm3/1000s. +-: 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 str. +-: 8.0 Check tolerance cm3/1000s. +-: 15.0 Rated speed rpm : 2300 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 1500 Del. quantity cm3/1000 strokes : 1.5
Aneroid pressure hPa : 1000 SV travel mm : 4.3 Tolerance mm +-: 0.6 Check tolerance mm +-: 0.7 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 SV travel mm : 1.0 Tolerance mm +-: 0.6 Check tolerance mm +-: 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1800 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 8.9 Tolerance bar +-: 0.5	Rated speed rpm : 2100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 str. +-: 3.0 Check tolerance cm3/1000s. +-: 8.0 Rated speed rpm : 2200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 str. +-: 8.0 Check tolerance cm3/1000s. +-: 15.0 Rated speed rpm : 2300 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 15.0 Rated speed rpm : 2300 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance

Check tolerance cm3/1000s. +-: 1.5	Spread cm3/1000 strokes : 5.0
Rated speed rpm : 800 Aneroid pressure	ELECTR. SHUTOFF
hPa : 300	+ CONTROL LEVER, IDLE STOP
LDA/ HBA stroke mm : 7.3 Del. quantity	Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 1.5
cm3/1000 strokes : 51.0	Tolerance
Tolerance cm3/1000 str. +: 0.5	cm3/1000 str. +-: 1.5 Check tolerance
Check tolerance cm3/1000s. + : 4.0	- cm3/1000s. + : 1.5 - Spread
Rated speed rpm : 1900	+ cm3/1000 strokes : 5.0 + Shutoff solenoid
Aneroid pressure hPa : 1000	+ Volt : 12
Del. quantity cm3/1 000 strokes : 66.0	+ IDLE DELIVERY
Tolerance cm3/1 000 str. +-: 2.0	Rated speed rpm : 600
Check colerance cm3/1000s. + : 3.5	+ Del. quantity + cm3/1000 strokes : 1.5
Rated speed rpm : 1250	+ Tolerance + cm3/1000 str. +-: 1.5
Aneroid pressure hPa : 1000	+ Check tolerance + cm3/1000s. + : 1.5
Del. quantity cm3/1000 strokes : 72.0	+
Tolerance cm3/1000 str. +-: 2.0	+
Check tolerance cm3/1000s. +-: 3.0	+
Rated speed rpm : 1500	+ START TRANSITION
Aneroid pressure hPa : 1000	+ Rated speed rpm : 450 + Del. quantity
Del. quantity cm3/1000 strokes : 68.0	+ cm3/1000 strokes : 45.0 + Tolerance
Tolerance cm3/1000 str. + : 0.5	cm3/1000 str. +: 10.0
Check tolerance cm3/1000s. +-: 2.5	Rated speed rpm : 300
	+ Del. quantity + cm3/1000 strokes : 70.0
MECHANICAL SHUTOFF	+ Tolerance + cm3/1000 str. + : 20.0
Rated speed rpm : 1900 Aneroid pressure	
hPa : 1500 Del. quantity	ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes : 1.5 Tolerance	LDA/
cm3/1000 str. +-: 1.5 Spread	+ HBA stroke mm : 7.3 + Dimension KF mm : 6,6
cm3/1000 strokes : 5.0 Check tolerance	Tolerance mm +: 0,2 Dimension MS mm : 1,3
cm3/1000s. +: 1.5	+ Tolerance mm +: 0,2

SVS dimension mm : 2,9

CONTROL LEVER POSITION SET

Control lever

position YA mm : 37,2..39,2

Control lever

position YB mm : 48,1..55,9

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.03.97 Test oil : ISO 4113

Part no. : 0 460 485 034 Pump designation : VE5/8F2100L545-7

Customer—spec. information Customer : VW Motor : 2,4l SD

Power KW : 57.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C +-: 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 000

Opening pressure

bar : 147 Tolerance bar + : 3

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm : 2.4
Tolerance mm + : 0.2
Shutoff solenoid
Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250
Supply pomp
pressure bar : 6.0
Tolerance bar +- : 0.3
Shutoff solenoid
Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250
Del. quantity
cm3/1000 strokes : 36.5
Tolerance
cm3/1000 str. + : 0.5
Spread
cm3/1000 strokes : 2.0
Shutoff solenoid
Volt : 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 540
Del. quantity
cm3/1000 strokes : 7.0
Tolerance
cm3/1000 str. +: 0.5
Shutoff solenoid
Volt : 12

IDLE DELIVERY

Rated speed rpm : 415
Del. quantity
cm3/1000 strokes : 8.0
Tolerance
cm3/1000 str. + : 1.0
Spread
cm3/1000 strokes : 2.0
Shutoff solenoid
Volt : 12

HIGH IDLE SETTING

Rated speed rpm : 450
Del. quantity
cm3/1000 strokes : 8.0

Tolerance	+
cm3/1000 str. +-: 1.0 Shutoff solenoid	INJECTION-PUMP TEST SPECIFICATIONS
Volt : 12	TIMING DEVICE CHARACTERISTIC
FULL-LOAD SPEED REGULATION	Rated speed rpm : 1790
Rated speed rpm : 2400 Del. quantity	SV travel mm : 5.7
cm3/1000 strokes : 12.0 Tolerance	Tolerance mm + : 0.6 Check
cm3/1000 str. +-: 2.0 Shutoff solenoid	tolerance mm + : 0.7 Shutoff solenoid
Volt : 12	Volt : 12
STARTING FUEL DELIVERY	Rated speed rpm : 1000
Rated speed rpm : 100 Del. quantity	SV travel mm : 0.7 Tolerance mm + : 0.6
cm3/1000 strokes : 60.0 Tolerance	+ Check + tolerance mm ++: 0.7
cm3/1000 str. +-: 25.0 Shutoff solenoid	Shutoff solenoid Volt : 12
Volt : 12	SUPPLY PUMP PRESSURE CHARACTERISTIC
LOAD APPENDENT CTART OF API TUEDY	Rated speed rpm : 1790
LOAD-DEPENDENT START OF DELIVERY SETTING	Supply pomp pressure bar : 7.5
DELIVERY DIFFERENCE	Tolerance bar + : 0.5 Shutoff solenoid
Rated speed rpm : 1500 Del. quantity	Volt : 12 Rated speed rpm : 1000
cm3/1000 strokes : -7.0 Tolerance	+ Supply pomp
cm3/1000 str. + : 1.0 Shutoff solenoid	<pre>+ pressure bar : 5.3 + Tolerance bar + : 0.5 + Shutoff solenoid</pre>
Volt : 12	T Volt : 12
PRESSURE DIFFERENCE	OVERFLOW QUANTITY
Rated speed rpm : 1500 Del. quantity	Rated speed rpm : 2100 Overflow quantity
cm3/1000 strokes : -0.2 Tolerance	ccm/10s : 97.2 Tolerance
cm3/1000 str. + : 0.1 Shutoff solenoid	ccm/10s + : 27.7
Volt : 12	+ Check tolerance + ccm/10s ++: 41.6
TIMING-DEVICE TRAVEL DIFFERENCE	+ Shutoff solenoid + Volt : 12
Rated speed rpm : 1500 Del. quantity	Rated speed rpm : 600
cm3/1000 strokes : -0.4 Tolerance	+ Overflow quantity + ccm/10s : 63.8
cm3/1000 str. +-: 0.1 Shutoff solenoid	+ Tolerance + ccm/10s +-: 16.6
Volt : 12	‡

		P. J
Check tolowenes	†	Del. quantity
Check tolerance	22.2	cm3/1000 strokes : 36.5
	22.2	Tolerance
Shutoff solenoid	12	cm3/1000 str. +: 0.5
Volt :	12	Check tolerance
	†	cm3/1000s. + : 2.2
DELIVERY AND BREAKAWAY C	HARACTERISTIC +	Shutoff solenoid
		Volt : 12
Rated speed rpm : 24	00 +	
Del. quantity	+	
	12.0	
Tolerance	+	ELECTR. SHUTOFF
cm3/1000 str. +-:	2.0	CONTROL LEVER, IDLE STOP
Check tolerance	+	
cm3/1000s. + :	4.0	Rated speed rpm : 415
Shutoff solenoid	+	Del. quantity
Volt :	12	cm3/1000 strokes : 1.5
	+	Tolerance
Rated speed rpm : 23	00 +	cm3/1000 str. + : 1.5
Del. quantity	+	Check tolerance
	22.0	cm3/1000s. +-: 1.5
Tolerance	-	Spread
cm3/1000 str. +-:	6.0	cm3/1000 strokes : 5.0
Check tolerance	<u> </u>	
cm3/1000s. +-:	6.0	FULL-LOAD STOP CONTROL LEVER
Shutoff solenoid	1	
Volt :	12	Rated speed rpm : 415
	1	Del. quantity
Rated speed rpm : 25	BO	cm3/1000 strokes : 1.5
Del. quantity	1	Tolerance
cm3/1000 strokes :	3.0	cm3/1000 str. + : 1.5
Tolerance		Spread
cm3/1000 str. +-:	3.0	cm3/1000 strokes : 5.0
Check tolerance	1	Check tolerance
cm3/1000s. +-:	3.0	cm3/100Cs. + : 1.5
Shutoff solenoid	1	Spread
Volt :	12	cm3/1000 strokes : 5.0
	1	CIID7 1000 3C1 0KC3 . 3.0
Rated speed rpm : 21	00 🗼	
Del. quantity	1	
	31.0 I	
Tolerance	1	RESIDUAL QUANTITY
cm3/1000 str. +-:	1.5	HEATANE MAULITI
Check tolerance	I	Rated speed rpm : 490
cm3/1000s. +-:	2.2	Del. quantity
Shutoff solenoid	1	cm3/1000 strokes : 7.8
Volt :	12	Tolerance
	I	cm3/1000 str. +-: 2.5
Rated speed rpm : 60	00	Check tolerance
Del. quantity	T	cm3/1000s. +-: 2.5
	33.8	Shutoff solenoid
Tolerance	33.8 T	Volt : 12
cm3/1000 str. +:	2.0	12
	7	
Check tolerance	3.0	
cm3/1000s. +-:	7.0	CUECUTAIC LOAD DEDENINGAT
Shutoff solenoid	12	CHECKING LOAD-DEPENDENT
Volt :	12	START OF DELIVERY
Detail speed see 400	50	DELINEDY DIRECTENCE
Rated speed rpm : 12	> U †	DELIVERY DIFFERENCE
	+	

Rated speed rpm :	1500 +	Shutoff solenoid
Del. quantity	1	Volt : 12
cm3/1000 strokes :	-6.5	
Tolerance	1	
cm3/1000 str. +-:	3.0	Rated speed rpm : 180
Check tolerance	1	Del. quantity
cm3/1000s. +-:	4.0	cm3/1000 strokes : 60.0
Shutoff solenoid	1	Tolerance
Volt :	12	cm3/1000 str. + : 25.0
,	I	Shutoff solenoid
TIMING-DEVICE TRAVEL D	TEFEDENICE	Volt : 12
TITLE DEVICE TANACE D	I	. 12
Rated speed rpm :	1500	
Del. quantity	1	ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes :	-0.4	MODELIDEL MINE ADDOQUINEMENT DELIGIOUS
Tolerance	I	Dimension K mm : 3,3
cm3/1000 str. +-:	0.1	Tolerance mm + : 0,1
Shock tolerance	I	Dimension KF mm : 5,8
cm3/1000s. +-:	0.1 I	Tolerance mm +-: 0,2
Shutoff solenoid	I	Dimension MS mm : 1,4
Volt :	12	Tolerance mm +-: 0.1
,	I	rocerance likit U/1
DELIVERY DIFFERENCE	I	
DECITE NITTENDICE	I	
Rated speed rpm :	1500	CONTROL LEVER POSITION
Del. quantity	I	SET
cm3/1000 strokes :	1.5	JE1
Tolerance	1.3 I	
cm3/1000 str. +-:	1.5	Scatrol Lever
Check tolerance	I	position YA mm : 38,239,2
cm3/1000s. +-:	1.5	position (A Imi) . 30/239/2
Shutoff solenoid	1.3 I	Control lever
	T	position YB mm : 38,549,5
VOLT	12	
Volt :	12	position 15 mil . 50/547/5
	12	, 30,547,5
PRESSURE DIFFERENCE	12	
PRESSURE DIFFERENCE	‡	. 30/347/3
PRESSURE DIFFERENCE Rated speed rpm :	1500	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp	1500	End of test-specification sheet
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar :	1500	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar +-:	1500	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar +-: Shutoff solenoid	1500 -1.0 0.3	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar +-:	1500	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar +-: Shutoff solenoid	1500 -1.0 0.3	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar +: Shutoff solenoid Volt :	1500 -1.0 0.3	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar + : Shutoff solenoid Volt : TIMING-DEVICE TRAVEL D	1500 -1.0 0.3 12	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar + : Shutoff solenoid Volt : TIMING-DEVICE TRAVEL D Rated speed rpm :	1500 -1.0 0.3	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar + : Shutoff solenoid Volt : TIMING-DEVICE TRAVEL D	1500 -1.0 0.3 12 2IFFERENCE	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar +: Shutoff solenoid Volt : TIMING-DEVICE TRAVEL D Rated speed rpm : Tolerance mm +: Check	1500 -1.0 0.3 12 2IFFERENCE	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar + : Shutoff solenoid Volt : TIMING-DEVICE TRAVEL D Rated speed rpm : Tolerance mm + :	1500 -1.0 0.3 12 DIFFERENCE 1500 0.4	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar +: Shutoff solenoid Volt : TIMING-DEVICE TRAVEL D Rated speed rpm : Tolerance mm +: Check tolerance mm +:	1500 -1.0 0.3 12 DIFFERENCE 1500 0.4	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar +: Shutoff solenoid Volt : TIMING-DEVICE TRAVEL D Rated speed rpm : Tolerance mm +: Check tolerance mm +: Shutoff solenoid	1500 -1.0 0.3 12 DIFFERENCE 1500 0.4 0.6	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar +: Shutoff solenoid Volt : TIMING-DEVICE TRAVEL D Rated speed rpm : Tolerance mm +: Check tolerance mm +: Shutoff solenoid	1500 -1.0 0.3 12 DIFFERENCE 1500 0.4 0.6	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar +: Shutoff solenoid Volt : TIMING-DEVICE TRAVEL D Rated speed rpm : Tolerance mm +: Check tolerance mm +: Shutoff solenoid	1500 -1.0 0.3 12 DIFFERENCE 1500 0.4 0.6	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar + : Shutoff solenoid Volt : TIMING-DEVICE TRAVEL D Rated speed rpm : Tolerance mm + : Check tolerance mm + : Shutoff solenoid Volt :	1500 -1.0 0.3 12 DIFFERENCE 1500 0.4 0.6	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar +: Shutoff solenoid Volt : TIMING-DEVICE TRAVEL D Rated speed rpm : Tolerance mm +: Check tolerance mm +: Shutoff solenoid Volt : START TRANSITION	1500 -1.0 0.3 12 DIFFERENCE 1500 0.4 0.6	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar +: Shutoff solenoid Volt : TIMING-DEVICE TRAVEL D Rated speed rpm : Tolerance mm +: Check tolerance mm +: Shutoff solenoid Volt : START TRANSITION Rated speed rpm :	1500 -1.0 0.3 12 DIFFERENCE 1500 0.4 0.6	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar +: Shutoff solenoid Volt : TIMING-DEVICE TRAVEL D Rated speed rpm : Tolerance mm +: Check tolerance mm +: Shutoff solenoid Volt : START TRANSITION	1500 -1.0 0.3 12 DIFFERENCE 1500 0.4 0.6	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar +: Shutoff solenoid Volt : TIMING-DEVICE TRAVEL D Rated speed rpm : Tolerance mm +: Check tolerance mm +: Shutoff solenoid Volt : START TRANSITION Rated speed rpm : Del. quantity	1500 -1.0 0.3 12 DIFFERENCE 1500 0.4 0.6 12	
PRESSURE DIFFERENCE Rated speed rpm : Supply pomp pressure bar : Tolerance bar +: Shutoff solenoid Volt : TIMING-DEVICE TRAVEL D Rated speed rpm : Tolerance mm +: Check tolerance mm +: Shutoff solenoid Volt : START TRANSITION Rated speed rpm : Del. quantity cm3/1000 strokes :	1500 -1.0 0.3 12 DIFFERENCE 1500 0.4 0.6 12	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.04.97 : ISO 4113 Test oil

Part no. : 0 460 485 036 Pump designation : VE5/8F2100L750

Customer-spec. information Customer : VW Motor : 2,4L SD Power KW : 55.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance *C +-:

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 000 assembly

Opening pressure

147 Tolerance bar + :

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 840

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Setting mm 4.3 Tolerance mm +-: 0.2 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1500

Supply pomp

pressure bar 7.4 Tolerance bar +-: 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 36.9 Tolerance cm3/1000 str. +-: 0.5 Spread

cm3/1000 strokes : 2.0 Shutoff solenoid Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 540 Del. quantity

cm3/1000 strokes : 7.0

Tolerance

cm3/1000 str. +-:0.5 Shutoff solenoid

12 Volt

IDLE DELIVERY

Rated speed rpm : 415

Del. quantity

cm3/1000 strokes : 8.0

Tolerance

cm3/1000 str. + :1.0

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt 12

HIGH IDLE SETTING

465 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 8.0

Tolerance cm3/1000 str. +-		1.0	†	_
Shutoff solenoid	•		1	INJECTION-PUMP TEST SPECIFICATIONS
Volt	:	12	‡	TIMING DEVICE CHARACTERISTIC
FULL-LOAD SPEED R	EGUL	ATION	+	- - Rated speed rpm : 1790
Rated speed rpm Del, quantity	:	2400	1	- SV travel mm : 6.3
cm3/1000 strokes Tolerance	:	12.0		Tolerance mm + : 0.6 Check
cm3/1000 str. + Shutoff solenoid	;	2.0	1	tolerance mm +-: 0.6 Shutoff solenoid
Volt	:	12	}	Volt : 12
STARTING FUEL DEL	IVER	Y		Rated speed rpm : 1100
Pated speed rpm Del. quantity	:	100	1	SV travel mm : 1.3 Tolerance mm +-: 0.5
cm3/1000 strokes Tolerance	:	55.0	1	Check tolerance mm +-: 0.6
cm3/1000 str. +- Shutoff solenoid	:	20.0	1	Shutoff solenoid Volt : 12
Volt	:	12		SUPPLY PUMP PRESSURE CHARACTERISTIC
				Rated speed rpm : 1790
LOAD-DEPENDENT STA	ART	OF DELIVERY		- Supply pomp
			7	- pressure bar : 8.1 - Tolerance bar +- : 0.3
DELIVERY DIFFEREN		4500	†	- Shutoff solenoid - Volt : 12
Rated speed rpm Del. quantity		1500	‡	- Rated speed rpm : 1100
cm3/1000 strokes Tolerance		-7.0	#	Supply pomp pressure bar : 6.2
cm3/1000 str. +- Shutoff solenoid		1.0	‡	- Tolerance bar +-: 0.3 - Shutoff solenoid
Volt		12	‡	- Volt : 12
PRESSURE DIFFEREN	CE		‡	- OVERFLOW QUANTITY
Rated speed rpm Del. quantity	:	1500	‡	Rated speed rpm : 2100Overflow quantity
cm3/1000 strokes Tolerance	:	-0.2	1	- ccm/10s : 83.8 - Tolerance
cm3/1000 str. +- Shutoff solenoid	:	0.1	1	- ccm/10s +-: 27.7
Volt	:	12	1	- Check tolerance - ccm/10s + : 41.6
TIMING-DEVICE TRAN	VEL	DIFFERENCE	1	- Shutoff solenoid - Volt : 12
Rated speed rpm Del. quantity	:	1500	1	- Rated speed rpm : 600
cm3/1000 strokes Tolerance	:	-1.2	1	- Overflow quantity - ccm/10s : 63.8
cm3/1000 str. + Shutoff solenoid	:	0.1	7	- CCM/10s : 65.6 - Tolerance - ccm/10s +- : 16.6
Volt	:	12	$\frac{1}{4}$	- CCM/105 1=; 10.0

		l Dol guantitu
Check tolerance		+ Del. quantity + cm3/1000 strokes : 36.9
ccm/10s + :	22.2	- Tolerance
Shutoff solenoid		+ cm3/1000 str. + : 0.5
Volt :	12	+ Check tolerance
		+ cm3/1000s. $+$: 0.9
DELIVERY AND BREAK	AWAY CHARACTERISTIC	† Shutoff solenoid
6 A	0/00	† Volt : 12
Rated speed rpm : Del. quantity	2400	†
cm3/1000 strokes	12.0	MECHANICAL SHUTOFF
Tolerance	12.0	I HECHANICAL SHOTOLL
cm3/1000 str. + :	2.0	Rated speed rpm : 2100
Check tolerance		+ Del. quantity
cm3/1000s. +-:	: 4.0	+ cm3/1000 strokes : 1.5
Shutoff solenoid		+ Tolerance
Volt :	: 12	+ cm3/1000 str. + : 1.5
Datad aread are	2300	- Check tolerance
Rated speed rpm : Del. quantity	2300	+ cm3/1000s. +: 1.5 + Shutoff solenoid
cm3/1000 strokes	22,0	+ Volt : 12
Tolerance		
cm3/1000 str. +-:	: 6.0	
Check tolerance		+ ELECTR. SHUTOFF
cm3/1000s. +-:	: 6.0	+ CONTROL LEVER, IDLE STOP
Shutoff solenoid	. 40	†
Volt :	: 12	+ Rated speed rpm : 415
Rated speed rpm :	26 0 0	+ Del. quantity + cm3/1000 strokes : 1.5
Del. quantity		+ Tolerance
cm3/1000 strokes	3.0	+ cm3/1000 str. +-: 1.5
Tolerance	- -	+ Check tolerance
cm3/1000 str. + :	3.0	cm3/1000s. +: 1.5
Check tolerance cm3/1000s. +-:	3.0	
Shutoff solenoid	3.0	T clib/ lood strokes:
Volt	: 12	FULL-LOAD STOP CONTROL LEVER
		+
Rated speed rpm :	2100	Rated speed rpm : 415
Del. quantity cm3/1000 strokes :	31.0	+ Del. quantity + cm3/1000 strokes : 1.5
Tolerance	31.0	Tolerance
cm3/1000 str. +:	1.1	cm3/1000 str. +: 1.5
Check tolerance		Spread
cm3/1COGs.	1.1	+ cm3/1000 strokes : 5.0
Shutoff solenoid	. 43	- Check tolerance
Volt :	12	- cm3/1000s. +-: 1.5 - Spread
Rated speed rpm :	600	- cm3/1000 strokes : 5.0
Del. quantity		-
cm3/1000 strokes :	34.7	+
Tolerance		†
cm3/1000 str. +:	1.6	DECENIAL QUANTETTY
Check tolerance cm3/1000s. +-:	1.6	RESIDUAL QUANTITY
Shutoff solenoid	1.0	Rated speed rpm : 490
Volt :	12	+ Del. quantity
		+ cm3/1000 strokes : 7.8
Rated speed rpm :	1250	+ Tolerance
		+ cm3/1000 str. +-: 1.0

Check tolerance +	Check
cm3/1000s. + : 2.5	tolerance mm +-: 0.6
Shutoff solenoid	
· · · · · · · · · · · · · · · · · · ·	Shutoff solenoid
Volt : 12 +	Volt : 12
†	
<u> </u>	
	START TRANSITION
CHECKING LOAD-DEPENDENT	
START OF DELIVERY +	Rated speed rpm : 380
+	Del. quantity
DELIVERY DIFFERENCE +	cm3/1000 strokes : 27.0
-	Tolerance
Rated speed rpm : 1500	cm3/1000 str. + : 10.0
Del. quantity	Shutoff solenoid
cm3/1000 strokes : -10.5	Volt : 12
Tolerance	, , ,
cm3/1000 str. +: 3.0	
Check tolerance	Rated speed rpm : 180
cm3/1000s. +-: 4.0	Del. quantity
Shutoff solenoid	cm3/1000 strokes : 60.0
Volt : 12	Tolerance
TIMELO ARUSAR TRAUEL ATPERRENA	cm3/1000 str. +-: 25.0
TIMING-DEVICE TRAVEL DIFFERENCE	Shutoff solenoid
4500	Volt : 12
Rated speed rpm : 1500	
Del. quantity	
cm3/1000 strokes : -1.2	ASSEMBLY AND ADJUSTMENT DIMENSIONS
Tolerance +	
cm3/1000 str. + : 0.1	Dimension V ma . 7 7
this/felod str. +-: 0.1	Dimension K mm : 3,3
Check tolerance	Tolerance mm +: 0,1
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid	Tolerance mm +: 0,1
Check tolerance cm3/1000s. +: 0.2	Tolerance mm + : 0,1 Dimension KF mm : 5,8
Check tolerance cm3/1000s. + : 0.2 Shutoff solenoid	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2
Check tolerance cm3/1000s. + : 0.2 Shutoff solenoid	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4
Check tolerance cm3/1000s. + : 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4
Check tolerance cm3/1000s. + : 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2
Check tolerance cm3/1000s. + : 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION
Check tolerance cm3/1000s. + : 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2
Check tolerance cm3/1000s. + : 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION
Check tolerance cm3/1000s. + : 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Shutoff solenoid	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8 Control lever
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Shutoff solenoid Volt : 12	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Shutoff solenoid	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8 Control lever
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Shutoff solenoid Volt : 12 PRESSURE DIFFERENCE	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8 Control lever
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Shutoff solenoid Volt : 12 PRESSURE DIFFERENCE Rated speed rpm : 1500	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8 Control lever
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Shutoff solenoid Volt : 12 PRESSURE DIFFERENCE Rated speed rpm : 1500 Supply pomp	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8 Control lever position YB mm : 60,567,5
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Shutoff solenoid Volt : 12 PRESSURE DIFFERENCE Rated speed rpm : 1500 Supply pomp pressure bar : -1.0	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8 Control lever
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Shutoff solenoid Volt : 12 PRESSURE DIFFERENCE Rated speed rpm : 1500 Supply pomp pressure bar : -1.0 Tolerance bar +: 0.2	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8 Control lever position YB mm : 60,567,5
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Shutoff solenoid Volt : 12 PRESSURE DIFFERENCE Rated speed rpm : 1500 Supply pomp pressure bar : -1.0 Tolerance bar +: 0.2 Shutoff solenoid	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8 Control lever position YB mm : 60,567,5
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Shutoff solenoid Volt : 12 PRESSURE DIFFERENCE Rated speed rpm : 1500 Supply pomp pressure bar : -1.0 Tolerance bar +: 0.2	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8 Control lever position YB mm : 60,567,5
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Shutoff solenoid Volt : 12 PRESSURE DIFFERENCE Rated speed rpm : 1500 Supply pomp pressure bar : -1.0 Tolerance bar +: 0.2 Shutoff solenoid Volt : 12	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8 Control lever position YB mm : 60,567,5
Check tolerance cm3/1000s. +: 0.2 Shutoff solenoid Volt : 12 DELIVERY DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Shutoff solenoid Volt : 12 PRESSURE DIFFERENCE Rated speed rpm : 1500 Supply pomp pressure bar : -1.0 Tolerance bar +: 0.2 Shutoff solenoid	Tolerance mm + : 0,1 Dimension KF mm : 5,8 Tolerance mm + : 0,2 Dimension MS mm : 1,4 Tolerance mm + : 0,2 CONTROL LEVER POSITION SET Control lever position YA mm : 32,834,8 Control lever position YB mm : 60,567,5

Rated speed rpm : Tolerance mm +:

1500 0.2

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.04.97 Test oil : ISO 4113

Part no. : 0 460 485 037 Pump designation : VE5/8F2100L752

Customer-spec. information

customer : VW

Motor : 2,41 SD f. T4

Power KW : 55.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C +- : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar +-: 0.05

Test nozzle holde

essembly : 1 688 901 000

Opening pressure

bar : 147 Tolerance bar +- : 3

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Setting mm : 4.3
Tolerance mm + : 0.2
Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1500

Supply pomp

pressure bar : 7.4
Tolerance bar + : 0.3

Shutoff solenoid Volt :

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

12

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 36.9

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

olt : 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 540

Del. quantity

cm3/1000 strokes : 7.0

Tolerance

cm3/1000 str. + : 0.5

Shutoff solenoid

Volt : 12

IDLE DELIVERY

Rated speed rpm : 415

Del. quantity

cm3/1000 strokes : 8.0

Tolerance

cm3/1000 str. +-: 1.0

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt : 12

HIGH IDLE SETTING

Rated speed rpm : 450

Del. quantity

cm3/1000 strokes : 8.0

Tolorope	
Tolerance + 1.0 + + + + + + + + + + + + + + + + + + +	
Shutoff solenoid	INJECTION-PUMP TEST SPECIFICATIONS
Volt : 12	THE COLLECTION OF THE STATE OF
+	TIMING DEVICE CHARACTERISTIC
FULL-LOAD SPEED REGULATION +	
+	Rated speed rpm : 1790
Rated speed rpm : 2400 +	
Del. quantity	SV travel mm : 6.3
cm3/1000 strokes : 12.0	Tolerance mm +-: 0.6
Tolerance + cm3/1000 str. + : 2.0 +	Check
Shutoff solenoid	tolerance mm +-: 0.6 Shutoff solenoid
Volt : 12	Volt : 12
	. 12
STARTING FUEL DELIVERY	Rated speed rpm : 1100
+	
Rated speed rpm : 100 +	SV travei mm : 1.6
Del. quantity +	Tolerance mm +-: 0.5
cm3/1000 strokes : 60.0 +	Check
Tolerance +	tolerance mm + : 0.6
cm3/1000 str. + : 25.0 + Shutoff solenoid +	Shutoff solenoid
Volt : 12	Volt : 12
	SUPPLY PUMP PRESSURE CHARACTERISTIC
	SOLIE FOR TRESSORE CHARACTERISTIC
1	Rated speed rpm : 1790
LOAD-DEPENDENT START OF DELIVERY	Supply pomp
SETTING	pressure bar : 8.1
+	Tolerance bar +-: 0.3
DELIVERY DIFFERENCE +	Shutoff solenoid
5 .4 1	Volt : 12
Rated speed rpm : 1500	Deviced encoderns 4400
Del. quantity + cm3/1000 strokes : -7.0 +	Rated speed rpm : 1100
Tolerance	Supply pomp pressure bar : 6.2
cm3/1000 str. +-: 1.0	Tolerance bar + : 0.3
Shutoff solenoid	Shutoff solenoid
Volt : 12	\'olt : 12
+	
PRESSURE DIFFERENCE +	OVERFLOW QUANTITY
+	
Rated speed rpm : 1500	Rated speed rpm : 2100
Del. quantity + cm3/1000 strokes : -0.2 +	Overflow quantity ccm/10s : 88.8
Tolerance	Tolerance : 60.0
cm3/1000 str. + : 0.1	ccm/10s +-: 27.7
Shutoff solenoid	20.17
Volt : 12 +	Check tolerance
+	ccm/10s +-: 41.6
TIMING-DEVICE TRAVEL DIFFERENCE +	Shutoff solenoid
Bat 1 and 1 and 1	Volt : 12
Rated speed rpm : 1500	Dated aread (00
Del. quantity + cm3/1000 strokes : -1.2 +	Rated speed rpm : 600
Tolerance	Overflow quantity ccm/10s : 63.8
cm3/1000 str. +-: 0.1	Tolerance
Shutoff solenoid	ccm/10s +-: 16.6
Volt : 12	
1	

Observation and a service of		•		el. quantity		7.4	
Check tolerance				m3/1000 strokes	:	36.9	
ccm/10s +-	:	22.2		olerance			
Shutoff solenoid				m3/1000 str. +-	:	0.5	
Volt	:	12		heck tolerance			
		•		m3/1000s. +-	:	0.9	
DELIVERY AND BREAK	KAWAY CI	HARACTERISTIC -		hutoff solenoid			
		•	+ v	olt olt	:	12	
Rated speed rpm	: 24	00 ·	+				
Del. quantity			+				
cm3/1000 strokes	:	12.0	+ -				
Tolerance		•	+ E	LECTR. SHUTOFF			
cm3/1000 str. ∻∽	:	2.0	+ c	CONTROL LEVER, IDL	E ST	0P	
Check tolerance		•	+	,			
cm3/1000s. +-	:	4.0	} R	lated speed rpm	:	415	
Shutoff solenoid				el quantity			
Volt	:	12		m3/1000 strokes	:	1.5	
			1 т	olerance			
Rated speed rpm	: 23		} c	m3/1000 str. +-	:	1.5	
Del. quantity				heck tolerance			
cm3/1000 strokes	:	22.0		m3/1000s. +-	:	1.5	
Tolerance	·			pread	•		
cm3/1000 str. :-	:	6.9		m3/1000 strokes	•	5.0	
Check tolerance	•	•	1		•	7.0	
cm3/1000s. +-	•	6.0	↓ F	ULL-LOAD STOP CON	TROI	LEVER	
Shutoff solenoid	•		Ţ,	OLE COMP OTOL COM	TINOL	ELVEIN	
Volt	:	12	1 0	ated speed rpm		415	
	•			el quantity	•	712	
Rated speed rpm	: 260	nn .		m3/1000 strokes	•	1.5	
Del. quantity		55	1	olerance	•	1.0	
cm3/1000 strokes	•	3.0		m3/1000 str. +-	•	1.5	
Tolerance	•	3.0		pread	•	(.)	
cm3/1000 str. +	•	3.0		m3/1000 strokes		5.0	
Check tolerance	•	3.0		heck tolerance	•	5.0	
cm3/1000s. +		3.0	1	m3/1000s. +-		1.5	
Shutoff solenoid	•	3.0			•	1.5	
Volt		12		pread m3/1000 strokes		5.0	
voct	•	12	T	mor todo strokes	•	5.0	
Rated speed rpm	: 210	00	Ţ				
	. 211		Ĩ				
Del. quantity cm3/1000 strokes		31.0	T				
	•	51.0	T	ECTIVIAL OLIANITITY			
Tolerance cm3/1000 str. +-	•	1.1	TK	ESIDUAL QUANTITY			
Check tolerance	•	1.1	T	nted aread		490	
		1.1		(:	490	
cm3/1000s. +	•	*•1		el quantity		7.0	
Shutoff solenoid		12		m3/1000 strokes	•	7.8	
Volt	:	12 -		olerance		2 -	
Data at an early are			1	m3/1000 str. +	:	2.5	
Rated speed rpm	: 60	- 00		heck tolerance		2 5	
Del. quantity		7/ 7		m3/1000s. +-	:	2.5	
cm3/1000 strokes	:	34.7		hutoff solenoid		45	
Tolerance			† ν	olt	:	12	
cm3/1000 str. +	:	1.6	t				
Check tolerance			t				
cm3/1000s. +-	:	1.6	† -		A 10 = :		
Shutoff solenoid				HECKING LOAD-DEPE	NDEN	T	
Volt	:	12 -	† S	TART OF DELIVERY			
			†				
Rated speed rpm	: 125	50 -	† D	ELIVERY DIFFERENC	E		
		•	+				

Rated speed rpm : Del. quantity	1500	Shutoff solenoid Volt : 12
cm3/1000 strokes : Tolerance	-10.5	
cm3/1000 str. +-: Check tolerance	3.0	Rated speed rpm : 180 Del. quantity
cm3/1000s. \leftarrow : Shutoff solenoid	4.0	cm3/1000 strokes : 60.0 Tolerance
Volt :	12	cm3/1000 str. + : 25.0 Shutoff solenoid
TIMING-DEVICE TRAVEL	DIFFERENCE -	Volt : 12
Rated speed rpm : Del. quantity	1500	ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes :	-1.2	
Tolerance cm3/1000 str. + : Check tolerance	0.1	Dimension K mm : 3,3 Tolerance mm + : 0,1
cm3/1000s. + : Shutoff solenoid	0.2	Dimension KF mm : 5,8 Tolerance mm +-: 0,2 Dimension MS mm : 1,4
Volt :	12	Tolerance mm +-: 0,2
DELIVERY DIFFERENCE	-	
Rated speed rpm : Del. quantity	1500 -	CONTROL LEVER POSITION SET
cm3/1000 strokes : Tolerance	1.5	
cm3/1000 str. + : Check tolerance	1.5	Control lever : 37,039,0
cm3/1000s. +-: Shutoff solenoid	1.5	- Control lever
Volt :	12	position YB mm : 38,549,5
PRESSURE DIFFERENCE		
Rated speed rpm : Supply pomp	1500	End of test-specification sheet
pressure bar :	-1.0	
Tolerance bar + : Shutoff solenoid	0.2	
Volt :	12	
TIMING-DEVICE TRAVEL	DIFFERENCE -	
Rated speed rpm :	1500	-
Tolerance mm + : Check	0.2	
tolerance mm +: Shutoff solenoid	0.6	
Volt :	12	
START TRANSITION		
Rated speed rpm : Del. quantity	380	-
cm3/1000 strokes : Tolerance	27.0	-
cm3/1000 str. +:	10.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 09.04.97 Test oil : ISO 4113

Part no. : 0 460 426 271 Pump designation : VE6/12F1100R387-2

Customer—spec. information Customer : CUMMINS

Motor : 6 BT 133/2100

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C +- : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 027

Opening pressure

bar : 250 Tolerance bar + : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,6

Tolerance mm +: 0,02(0,06)

Outlet : D

Prestroke

(as of UT) mm : 0.3Tolerance mm +: 0.02

Check

tolerance mm +-: 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000

Aneroid pressure

hPa : 1000

Setting mm : 1.2 Tolerance mm + : 0.2

Shutoff solenoid

Volt : 24

SUPPLY PUMP PRESSURE

Rated speed rpm : 1000

Aneroid pressure

hPa : 1000

Supply pomp

pressure bar : 7.5 Tolerance bar + : 0.3

Shutoff solenoid

Volt : 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 350

Aneroid pressure

hPa : 1000

Del. quantity

cm3/1000 strokes : 69.0

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 4.5

Shutoff solenoid

Volt : 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 600

Del. quantity

cm3/1000 strokes : 58.5

Tolerance

cm3/1000 str. +-: 0.5

Spread	1	Tolerance mm +-: 0.6
cm3/1000 strokes	: 9.0	Tolerance mm +-: 0.6 Check
Shutoff solenoid Volt	: 24	tolerance mm +-: 0.7 Shutoff solenoid
Check tolerance cm3/1000s.	: 9.0	Volt : 24
Check tolerance cm3/1000s.	: 4.5	SUPPLY PUMP PRESSURE CHARACTERISTIC
	· 4.5	Rated speed rpm : 1075
IDLE SETTING		Aneroid pressure hPa : 1000
Del. quantity	: 340	Supply pomp pressure bar : 7.8
cm3/1000 strokes Tolerance	: 15.0	Tolerance bar +-: 0.5 Shutoff solenoid
cm3/1000 str. +- Shutoff solenoid	: 1.0	Volt : 24
4.4. 4.4	: 24	Rated speed rpm : 600 Aneroid pressure
cm3/1000 strokes Check tolerance	: 6.0	hPa : 1000 Supply pomp
T 140000	: 7.0	pressure bar : 5.7
	‡	Tolerance bar + : 0.5 Shutoff solenoid
	‡	Volt : 24
FULL-LOAD SPEED RE	GULATION	OVERFLOW QUANTITY
Rated speed rpm Pressure hPa	: 1175 : 1000	Rated speed rpm : 600 Overflow quantity
Del. quantity cm3/1000 strokes	+	ccm/10s : 69.4 Tolerance
Tolerance cm3/1000 str. +	+	ccm/10s + : 16.6
Shutoff solenoid Volt	: 24	Check tolerance ccm/10s + : 20.8
•	+	Shutoff solenoid
STARTING FUEL DELI	+	Volt : 24
Del. quantity	: 100	Rated speed rpm : 1050 Aneroid pressure
cm3/1000 strokes Tolerance	+	hPa : 1000 Overflow quantity
cm3/1000 str. +- Shutoff solenoid	+	ccm/10s : 83.3 Tolerance
Volt	: 24	ccm/10s +: 27.7
	‡	Check tolerance ccm/10s +-: 41.6
	<u> </u>	Shutoff solenoid Volt : 24
INJECTION-PUMP TEST	T SPECIFICATIONS	DELIVERY AND BREAKAWAY CHARACTERISTIC
TIMING DEVICE CHAR	ACTERISTIC :	Rated speed rpm : 1175
Rated speed rpm Aneroid pressure	: 1075	Aneroid pressure
hPa	: 1000	nPa : 1000 Del. quantity cm3/1000 strokes : 13.0

SV travel mm : 2.1

Tolerance		+ Shutoff solenoid
cm3/1000 str. +- Check tolerance	2.0	+ Volt : 24
cm3/1000s. +- Shutoff solenoid	: 6.0	Rated speed rpm : 850 Aneroid pressure
Volt	: 24	+ hPa : 1000
Rated speed rpm	: 1225	+ Del. quantity - cm3/1000 strokes : 69.0
Aneroid pressure	: 1000	+ Tolerance + cm3/1000 str. +-: 0.5
Del. quantity cm3/1000 strokes	: 1.5	+ Check tolerance + cm3/1000s. +-: 3.0
Tolerance cm3/1000 str. +-	: 1.5	+ Shutoff solenoid + Valt : 24
Check tolerance +-	: 1.5	
Shutoff solenoid Volt	: 24	MECHANICAL SHUTOFF
Rated speed rpm	: 700	Rated speed rpm : 1100 Aneroid pressure
Aneroid pressure	: 400	hPa : 1000 - Del. quantity
Del. quantity cm3/1000 strokes		+ cm3/1000 strokes : 1.5 Tolerance
Tolerance cm3/1000 str. +-		- cm3/1000 str. +-: 1.5 - Spread
Check tolerance		cm3/1000 strokes : 5.0
Shutoff solenoid	: 24	+ cm3/1000s. +-: 1.5
Volt		+ Spread + cm3/1000 strokes : 5.0
Aneroid pressure	: 1050	+ Shutoff solenoid + Volt : 24
hPa Del. quantity	: 1000	
cm3/1000 strokes Tolerance		+ ELECTR. SHUTOFF + CONTROL LEVER, IDLE STOP
ილ3/1800 str. + : Check tolerance	2.5	+ Rated speed rpm : 340
cm3/1000s. +-: Shutoff solenoid	3.0	+ Del. quantity + cm3/1000 strokes : 1.5
Volt	: 24	+ Tolerance + cm3/1000 str. +-: 1.5
Rated speed rpm : Aneroid pressure	: 750	Check tolerance cm3/1000s. +-: 1.5
hPa : Tolerance	1000	Spread + cm3/1000 strokes : 5.0
cm3/1000 str. +- : Check tolerance	3.0	FULL-LOAD STOP CONTROL LEVER
cm3/1000s. +-:	4.0	+
Shutoff solenoid Volt	24	+ Rated speed rpm : 340 + Del. quantity
	600	+ cm3/1000 strokes : 1.5 + Tolerance
Aneroid pressure hPa :	1000	+ cm3/1000 str. +-: 1.5 + Spread
Del. quantity cm3/1000 strokes :	77.0	+ cm3/1000 strokes : 5.0 Check tolerance
Tolerance cm3/1000 str. +-:	5.0	+ cm3/1000s. +-: 1.5

Spread

cm3/1000 strokes : 5.0

IDLE DELIVERY

Rated speed rpm : 450

Del. quantity

cm3/1000 strokes : 2.0

Tolerance

cm3/1000 str. + : 2.0

Check tolerance

cm3/1000s. +-: 2.0

Shutoff solenoid

Volt : 24

START TRANSITION

Rated speed rpm : 525

Del. quantity

cm3/1000 strokes : 59.0

Tolerance

cm3/1000 str. + : 10.0

Shutoff solenoid

Volt : 24

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 102.5

Tolerance

cm3/1000 str. + : 20.0

Shutoff solenoid

Volt : 24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,2
Tolerance mm + : 0,2
Dimension MS mm : 1,5

Tolerance mm + : 0,2

SVS dimension mm : 1,8

CONTROL LEVER POSITION

SET

Control Lever

position YA mm : 34,5..38,5

Control Lever

position YB mm : 40,9..46,1

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.03.91 Test oil : ISO 4113

Part no. : 0 460 416 068
Pump designation : VE6/11F1350R417

Customer-spec. information

Customer : MAN

Motor : D 0826 F01/0H

Power KW : 110.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C -: 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar +-: 0.05

Test nozzle holde

assembly : 1 688 901 109

Opening pressure

bar : 207
Tolerance bar + : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm \div : 0,55 Tolerance mm \div : 0,02

Check

tolerance mm +-: 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 800

Setting mm : 4.0 Tolerance mm + : 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm : 800

Supply pomp

pressure bar : 5.3 Tolerance bar + : 0.3

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 76.2

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 4.0

IDLE SETTING

Rated speed rpm : 300

Del. quantity

cm3/1000 strokes : 10.0

Tolerance

cm3/1000 str. + : 3.0

Spread

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 6.5

FULL-LOAD SPEED REGULATION

Rated speed rpm : 1410

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 str. + : 3.0

STARTING FUEL DELIVERY

Del. quantity	+
cm3/1000 strokes : 55.0	+ Check tolerance
Tolerance	+ ccm/10s +: 41.6
cm3/1000 str. +-: 20.0	Patrid mand man
	Rated speed rpm : 600
	+ Overflow quantity + ccm/10s : 63.8
	1
	+ Tolerance + ccm/10s +-: 16.6
INJECTION-PUMP TEST SPECIFICATIONS	
740 CO 1 CO 1 CO 1 CO 1 CO 1 CO 1 CO 1 CO	+ Check tolerance
TIMING DEVICE CHARACTERISTIC	+ ccm/10s + : 22.2
The second of th	1
Rated speed rpm : 1350	+ DELIVERY AND BREAKAWAY CHARACTERISTIC
	+
SV travel mm : 6.5	+ Rated speed rpm : 1410
Tolerance mm +-: 0.4	+ Dei. quantity
Check	+ cm3/1000 strokes : 60.0
tolerance mm + : 0.7	+ Tolerance
Data dan al am a (00	+ cm3/1000 str. + : 3.0
Rated speed rpm : 600	Check tolerance
SV travel mm : 2.9	+ cm3/1000s. + : 4.5
SV travel mm : 2.9 Tolerance mm +-: 0.4	Rated speed rpm : 1500
Check	+ Rated speed rpm : 1500 + Del. quantity
tolerance mm +-: 0.7	+ cm3/1000 strokes : 7.5
cocerance in	Check tolerance
Rated speed rpm : 1000	+ cm3/1000s. +-: 7.5
Traced Speed (pill 1 1000	1.5
SV travel mm : 4.8	Rated speed rpm : 1550
Tolerance mm + : 0.4	+ Del. quantity
Check	+ cm3/1000 strokes : 1.5
tolerance mm + : C.7	+ Tolerance
	+ cm3/1000 str. + : 1.5
SUPPLY PUMP PRESSURE CHARACTERISTIC	+ Check tolerance
	+ cm3/1000s. + -: 1.5
Rated speed rpm : 1350	+
Supply pomp	+ Rated speed rpm : 1450
pressure bar : 7.3	+ Del. quantity
Tolerance bar + : 0.3	+ cm3/1000 strokes : 30.0
Data dama da 400	+ Tolerance
Rated speed rpm : 600	+ cm3/1000 str. + : 15.0
Supply pomp pressure bar : 4.5	+ Check tolerance + cm3/1000s. +-: 15.0
Tolerance bar + : 0.3	I (1115) (1000). 7 . 15.0
Total alice par	Rated speed rpm : 1350
Rated speed rpm : 1000	+ Del. quantity
Supply pomp	+ cm3/1000 strokes : 76.7
pressure bar : 6.1	+ Tolerance
Tolerance bar +: 0.3	+ cm3/1000 str. +-: 1.5
	+ Check tolerance
OVERFLOW QUANTITY	+ cm3/1000s. $+$: 3.0
	+
Rated speed rpm : 1350	+ Rated speed rpm : 800
Overflow quantity	+ Del. quantity
ccm/10s : 97.2	+ cm3/1000 strokes : 76.2
Tolerance	+ Tolerance
ccm/10s + : 27.7	+ cm3/1000 str. + : 2.0
	Check tolerance
	+ cm3/1000s. $+$: 3.5

Rated speed rpm	: 60	90
Del. quantity cm3/1000 strokes	: 6	51.5
Tolerance cm3/1000 str. +-	•	3.0
Check tolerance		
cm3/1000s. +-		4.0
Rated speed rpm Del. quantity	: 100	00
cm3/1000 strokes Tolerance	: 7	6.2
cm3/1000 str. +-	:	0.5
Check tolerance cm3/1000s. +-	:	2.5
MECHANICAL SHUTOFF		
Rated speed rpm Del. quantity	: 135	50
cm3/1000 strokes Tolerance	:	1.5
cm3/1000 str. +-	:	1.5
Spread cm3/1000 strokes	:	5.0
Check tolerance cm3/1000s. +-	:	1.5
Spread cm3/1000 strokes	:	5.0
IDLE DELIVERY		
Rated speed rpm Del. quantity	: 45	0
cm3/1000 strokes	:	1.5
Tolerance cm3/1000 str. ↔	•	1.5
Check tolerance cm3/1000s. +-	•	1.5
START TRANSITION		
Rated speed rpm	: 50	10
ואר דרופווה ומנו	_	~ ~
Del. quantity cm3/1000 strokes Tolerance	: 5	5.0

Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 str. +- : 30.0

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,8
Tolerance mm + : 0,2
MS1 dimension mm : 1,65
Tolerance mm + : 0,15
SVS dimension mm : 2,6

End of test-specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 23,10,92 Test oil : ISO 4113

Part no. : 0 460 416 069 Pump designation: VE6/11F1350R417-1

customer-spec. information

Customer : MAN

Motor : D 0826 GF01 Power KW 110.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C +-:

Overflow

restriction mm 0.55

0.35 Inlet press. bar : Tolerance bar + :

Test nozzle holde

: 1 688 901 109 assembly

Opening pressure

bar 207 Tolerance bar + :

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 840

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0,55 Tolerance mm +-: 0,02

Check

tolerance mm +-: 0,04

INJECTION PUMP SETTING VALUES

TIMING DÉVICE TRAVEL

Rated speed rpm : 800

Setting mm 4.0 Tolerance mm 0.2 Shutoff solenoid

Volt 24

SUPPLY PUMP PRESSURE

Rated speed rpm : 800

Supply pomp

5.3 pressure bar Tolerance bar +-: 0.3

Shutoff sclencid

Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 1000

Del. quantity

cm3/1000 strokes : 76.2

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 4.0

Shutoff solenoid

Volt 24

IDLE SETTING

300 Rated speed rpm

Del. quantity

cm3/1000 strokes : 10.0

Tolerance

cm3/1000 str. +-:3.0

Shutoff solenoid Volt 24

Spread

cm3/1000 strokes :

Check tolerance

cm3/1000s. 6.5

FULL-LOAD SPEED REGULATION

Del. quantity	†
cm3/1000 strokes : 60.0	+ Rated speed rpm : 600
Tolerance	+ Supply pomp
cm3/1000 str. +-: 3.0	pressure bar : 4.5
Shutoff solenoid	Tolerance bar + : 0.3
Volt : 24	+ Shutoff solenoid
	† Volt : 24
STARTING FUEL DELIVERY	†
D A = 1 400	+ Rated speed rpm : 1000
Rated speed rpm : 100	+ Supply pomp
Del. quantity	† pressure bar : 6.1
cm3/1000 strokes : 55.0	+ Tolerance bar +-: 0.3
Tolerance	+ Shutoff solenoid
cm3/1000 str. + : 20.0	+ Volt : 24
Shutoff solenoid	† <u></u>
Volt : 24	+ OVERFLOW QUANTITY
	†
	Rated speed rpm : 1350
	+ Overflow quantity
	+ ccm/10s : 97.2
THE PATTON DUMP TOOT ADDRESS AND TAKE	+ Tolerance
INJECTION—PUMP TEST SPECIFICATIONS	+ ccm/10s +-: 27.7
TTMTNIA A TUTAT ANIA DA ATTA TATA	†
TIMING DEVICE CHARACTERISTIC	- Check tolerance
	+ ccm/10s + : 41.6
Rated speed rpm : 1350	+ Shutoff solenoid
	† Volt : 24
SV travel mm : 6.5	†
Tolerance mm + : 0.4	+ Rated speed rpm : 600
Check	j Overflow quantity
tolerance mm +: 0.7	† ccm/10s : 63.8
Shutoff solenoid	+ Tolerance
Volt : 24	+ ccm/10s +: 16.6
m 1 = 1 (00	† -
Rated speed rpm : 600	+ Check tolerance
	+ ccm/10s +: 22.2
SV travel mm : 2.9	+ Shutoff solenoid
Tolerance mm + : 0.4	+ Volt : 24
Check	THE THERE AND DEFENDING CHARACTERS
tolerance mm + : 0.7	+ DELIVERY AND BREAKAWAY CHARACTERISTIC
Shutoif solenoid	Datasian and many 4/40
Volt : 24	Rated speed rpm : 1410
Dotad aread mar 1000	+ Del. quantity
Rated speed rpm : 1000	+ cm3/1000 strokes : 60.0 + Tolerance
SV travel mm : 4.8	+ cm3/1900 str. +-: 3.0
Tolerance mm +-: 0.4	Check tolerance
Check	+ cm3/1000s. +-: 4.5
tolerance mm +-: 0.7	+ Shutoff solenoid
Shutoff solenoid	+ Volt : 24
Volt : 24	T volt . 24
. 24	Rated speed rpm : 1500
SUPPLY PUMP PRESSURE CHARACTERISTIC	+ Rated speed rpm : 1500 + Del. quantity
DOLL ET LOUIE LEGOOGE CHWEWCIEKTOLTE	+ cm3/1000 strokes : 7.5
Rated speed rpm : 1350	+ Check tolerance
•	+ cm3/1000s. + : 7.5
Supply pomp pressure bar : 7.3	+ Shutoff solenoid
Tolerance bar +-: 0.3	+ Volt : 24
Shutoff solenoid	I vocc . 24
Volt : 24	Rated speed rpm : 1550
	T vated speed (bill . Decel

Del. quantity			1
cm3/1000 strokes	:	1.5	
Tolerance	•		# MECHANICAL SHUTOFF
cm3/1000 str. +-	;	1.5	
Check tolerance			Rated speed rpm : 1350
cm3/1000s. +-	:	1.5	+ Del. quantity
Shutoff solenoid			+ cm3/1000 strokes : 1.5
Volt	:	24	† Tolerance
			+ cm3/1000 str. +-: 1.5
Rated speed rpm	:	1450	+ Spread
Del. quantity			† cm3/1000 strokes : 5.0
cm3/1000 strokes	:	30.0	+ Check tolerance
Tolerance		4= 5	+ cm3/1000s. + : 1.5
cm3/1000 str. +-	:	15.0	+ Spread
Check tolerance		45.0	+ cm3/1000 strokes : 5.0
cm3/1000s. +-	:	15.0	+ Shutcff solenoid
Shutoff solenoid	_	2/	† Volt : 24
Volt	:	24	†
Dadad annad man		1750	ELECTR. CHUTCH
Rated speed rpm Del. quantity	·	1350	+ ELECTR. SHUTOFF
cm3/1000 strokes		76.7	CONTROL LEVER, IDLE STOP
Tolerance	•	70.7	Parad spand span . 700
cm3/1000 str. +-		1.5	+ Rated speed rpm : 300 + Del. quantity
Check tolerance	•	(.)	cm3/1000 strokes : 1.5
cm3/1000s. +-		3.0	Tolerance
Shutoff solenoid	•	2.0	- cm3/1000 str. +-: 1.5
Volt		24	Check tolerance
VOCE	•	2-7	+ cm3/1000s. +: 1.5
Rated speed riphi	:	008	Spread
Del. quantity	•	000	cm3/1000 strokes : 5.0
cm3/1000 strokes	:	76.2	1
Tolerance	•		FULL-LOAD STOP CONTROL LEVER
cm3/1000 str. +-	:	2.0	
Check tolerance			+ Rated speed rpm : 300
cm3/1000s. +-	:	3.5	+ Del. quantity
Shutoff solenoid			+ cm3/1000 strokes : 1.5
Volt	:	24	+ Tolerance
			+ cm3/1000 str. +-: 1.5
Rated speed rpm	:	600	Spread
Del. quantity			+ cm3/1000 strokes : 5.0
cm3/1000 strokes	:	59. 5	+ Check tolerance
Tolerance			+ cm3/1000s. + : 1.5
cm3/1000 str. +-	:	3.0	+ Spread
Check tolerance		, ,	+ cm3/1000 strokes : 5.0
cm3/1000s. +	:	4.0	÷
Shutoff solenoid			† IDLE DELIVERY
		~ .	
Volt	:	24	Debad assed ass
	:		Rated speed rpm : 450
Rated speed rpm	:	24 1000	+ Del. quantity
Rated speed rpm Del. quantity		1000	Del. quantity + cm3/1000 strokes : 1.5
Rated speed rpm Del. quantity cm3/1000 strokes			Del. quantity cm3/1000 strokes : 1.5 Tolerance
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	1000 76.2	Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +- : 1.5
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +-	:	1000	Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance	:	1000 76.2 0.5	Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +- : 1.5 Check tolerance cm3/1000s. +- : 1.5
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +-	:	1000 76.2	Del. quantity cm3/1000 strokes: 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Shutoff solenoid
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance	:	1000 76.2 0.5	Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +- : 1.5 Check tolerance cm3/1000s. +- : 1.5

START TRANSITION

Rated speed rpm Del. quantity	:	500
cm3/1000 strokes Tolerance	:	55.0
cm3/1000 str. +- Shutoff solenoid	:	15.0
Volt	:	24
Rated speed rpm	:	350
Rated speed rpm Del. quantity cm3/1000 strokes	•	350 90.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +-	:	
Del. quantity cm3/1000 strokes Tolerance	:	90.0

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,8
Tolerance mm + : 0,2
MS1 dimension mm : 1,65
Tolerance mm + : 0,15
SVS dimension mm : 2,6

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 01,07,92 Test oil : ISO 4113

Part no. : 0 460 416 070 Pump designation: VE6/11F1350R417-2

Customer-spec. information : MAN Customer

Motor : D 0826 QF 03

Power KW 110.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance *C +-:

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 109 assembly

Opening pressure

207 Tolerance bar +-: 3

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm 840

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0,55 Tolerance mm +-: 0.02

Check

tolerance mm +-: 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000

Setting mm 2.0 Tolerance mm 0.2 Shutoff solenoid

Volt 24

SUPPLY PUMP PRESSURE

1000 Rated speed rpm :

Supply pomp

pressure bar 5.3 Tolerance bar + : 0.3

Shutoff solenoid

Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 76.5

Tolerance

cm3/1000 str. +-:0.5 Spread

cm3/1000 strokes : 4.0

Shutoff solenoid

Volt 24

IDLE SETTING

Rated speed rpm 300

Del. quantity

cm3/1000 strokes : 10.0

Tolerance

cm3/1000 str. +-:3.0

Shutoff solenoid

Volt 24

Spread

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. 6.5

FULL-LOAD SPEED REGULATION

Del. quantity	t
cm3/1000 strokes : 60.0	+ Rated speed rpm : 1350
Tolerance	+ Supply pomp
cm3/1000 str. + : 3.0	+ pressure bar : 7.3
Shutoff solenoid	+ Tolerance bar + : 0.3
Volt : 24	+ Shutoff solenoid
	† Volt : 24
STARTING FUEL DELIVERY	†
0.4.1	+ OVERFLOW QUANTITY
Rated speed rpm : 100	†
Del. quantity	+ Rated speed rpm : 1350
cm3/1000 strokes : 60.0	+ Overflow quantity
Tolerance	+ ccm/10s : 97.2
cm3/1000 str. +-: 25.0	Tolerance
Shutoff solenoid	+ ccm/10s +-: 27.7
Volt : 24	†
	+ Check tolerance
•	+
•	+ Shutoff solenoid
•	+ Volt : 24
711 0.000 0.000 0.000	†
INJECTION-PUMP TEST SPECIFICATIONS	+ Rated speed rpm : 600
TIMINA RELIVACIONAL CINDA ATERNATIO	+ Overflow quantity
TIMING DEVICE CHARACTERISTIC	+ ccm/10s : 63.8
Both of open days and 1100	+ Tolerance
Rated speed rpm : 1100	+ ccm/10s +-: 16.6
SV travel mm : 2.9	T Charlest to Larons
Tolerance mm + ; 0.4	+ Check tolerance + ccm/10s ++: 22.2
Check	+ ccm/1Us +: 22.2 + Shutoff solenoid
tolerance mm + : 0.7	+ Volt : 24
Shutoff solenoid	† voit : 24
Volt : 24	T DELIVERY AND BREAKAWAY CHARACTERISTIC
, 24	T DECIVER! AND BREAKAWA! CHARACTERISTIC
Rated speed rpm : 900	Rated speed rpm : 1410
nacea speca (piii , 700	Del. quantity
SV travel mm : 1.1	cm3/1000 strokes : 60.0
Tolerance mm +: 0.4	+ Tolerance
Check	- cm3/1000 str. + : 3.0
tolerance mm +: 0.7	Check tolerance
Shutoff solenoid	+ cm3/1000s. +-: 4.5
Volt : 24	+ Shutoff solenoid
	+ Volt : 24
Rated speed rpm : 1350	+
	Rated speed rpm : 1500
SV travel mm : 4.9	
	Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 7.5
SV travel mm : 4.9	+ Del. quantity
SV travel mm : 4.9 Tolerance mm + : 0.4	Del. quantity cm3/1000 strokes : 7.5
SV travel mm : 4.9 Tolerance mm + : 0.4 Check	Del. quantity cm3/1000 strokes : 7.5 Check tolerance
SV travel mm : 4.9 Tolerance mm + : 0.4 Check tolerance mm + : 0.4	Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. +-: 7.5
SV travel mm : 4.9 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24	Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. +-: 7.5 Shutoff solenoid Volt : 24
SV travel mm : 4.9 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid	Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. + : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1550
SV travel mm : 4.9 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC	Del. quantity cm3/1000 strokes: 7.5 Check tolerance cm3/1000s. +-: 7.5 Shutoff solenoid Volt: 24 Rated speed rpm: 1550 Del. quantity
SV travel mm : 4.9 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 600	Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. + : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1550 Del. quantity cm3/1000 strokes : 1.5
SV travel mm : 4.9 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 600 Supply pomp	Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. + : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1550 Del. quantity cm3/1000 strokes : 1.5 Tolerance
SV travel mm : 4.9 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 600 Supply pomp pressure bar : 3.3	Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. + : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1550 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5
SV travel mm : 4.9 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 600 Supply pomp pressure bar : 3.3 Tolerance bar +: 0.3	Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. +-: 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1550 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance
SV travel mm : 4.9 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 600 Supply pomp pressure bar : 3.3 Tolerance bar +: 0.3 Shutoff solenoid	Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. + : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1550 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5
SV travel mm : 4.9 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 600 Supply pomp pressure bar : 3.3 Tolerance bar +: 0.3	Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. +-: 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1550 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance

Shutoff solenoid		† Tolerance
Volt :	24	cm3/1000 str. +-: 1.5
	~ T	Spread
Rated speed rpm :	1450	- cm3/1000 strokes : 5.0
Del. quantity	1450	Check tolerance
cm3/1000 strokes :	30.0	+ cm3/1000s. +-: 1.5
Tolerance	30.0	Spread
cm3/1000 str. +:	15.0	cm3/1000 strokes : 5.0
Check tolerance	15.0	Shutoff solenoid
cm3/1000s. +:	15.0	Volt : 24
Shutoff solenoid	15.0	I voct . 24
Volt :	24	
vocc :	24	ELECTR. SHUTOFF
Rated speed rpm :	1350	CONTROL LEVER, IDLE STOP
Del. quantity	טכנו	T CONTROL LEVER, IDLE STOP
cm3/1000 strokes :	76.5	Rated speed rpm : 300
Tolerance	10.5	
cm3/1000 str. +-:	1.5	+ Del. quantity + cm3/1000 strokes : 1.5
Check tolerance	1.5	
cm3/1000s. +-:	3.0	+ Tolerance + cm3/1000 str. +-: 1.5
Shutoff solenoid	5.0	Check tolerance
Volt :	24	- cm3/1000s. + : 1.5
*UCC :	£ 4	Spread
Rated speed rpm :	800	- cm3/1000 strokes : 5.0
Del. quantity	0:50	T CHRY TODO SCHOKES : 3.0
cm3/1000 strokes :	75.0	FULL-LOAD STOP CONTROL LEVER
Tolerance	15.0	TOLL LOAD STOP CONTROL LEVER
cm3/1000 str. +-:	2.0	Rated speed rpm : 300
Check tolerance	2.0	Del. quantity
cm3/1000s. +-:	3.5	- cm3/1000 strokes : 7.5
Shutoff solenoid	3.5	Tolerance
Volt :	24	cm3/1000 str. +: 1.5
	4 7	Spread
Rated speed rpm :	600	- cm3/1000 strokes : 5.0
Cel. quantity	000	Check tolerance
cm3/1000 strokes :	59.0	+ cm3/1000s. +: 1.5
Tolerance	<i>37</i> , 10	Spread
cm3/1000 str. +:	3.0	- cm3/1000 strokes : 5.0
Check tolerance	0.0	\$100 BELOKES . 5.0
cm3/1000s. +:	4.0	IDLE DELIVERY
Shutoff solenoid	7.0	
Volt :	24	Rated speed rpm : 450
•	• •	Del. quantity
Rated speed rpm :	1000	+ cm3/1000 strokes : 1.5
Del. quantity	. = = =	+ Tolerance
cm3/1000 strokes :	76.5	+ cm3/1000 str. + : 1.5
Tolerance		+ Check tolerance
cm3/1000 str. +:	0.5	+ cm3/1000s. $+$: 1.5
Check tolerance		+ Shutoff solenoid
cm3/1000s. +-:	2.5	+ Volt : 24
Shutoff solenoid		+
Volt :	24	+
		+
	· · · · · · · · · · · · · · · · · · ·	+
MECHANICAL SHUTOFF		+
		†
Rated speed rpm :	1350	+ START TRANSITION
Del. quantity	4 -	† <u>.</u>
cm3/1000 strokes :	1.5	+ Rated speed rpm : 500
		+

Del. quantity cm3/1000 strokes : 55.0 Tolerance cm3/1000 str. +-:15.0 Shutoff solenoid Volt 24 Rated speed rpm 350 Del. quantity cm3/1000 strokes : 90.0

Tolerance cm3/1000 str. +-: 30.0

Shutoff solenoid

Volt 24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,8 Tolerance mm + : 0,2 MS1 dimension mm : 1,65 Tolerance mm + : 0,15 SVS dimension mm : 3,1

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.09.91 Test oil : ISO 4113

Part no. : 0 460 416 073 Pump designation : VE6/11F1350R417-3

Customer—spec. information Customer : MAN

Motor : D 0826 F 02 Power KW : 110.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C +-: 1

Overflow

mestriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 109

Opening pressure

bar : 207 Tolerance bar + : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0,55 Tolerance mm + : 0,02

Check

tolerance mm + : 0.04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000

Setting mm : 2.0 Tolerance mm +-: 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm : 1000

Supply pomp

pressure bar : 5.3 Tolerance bar + : 0.3

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 78.5

Tolarance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 4.0

IDLE SETTING

Rated speed rpm : 300

Del. quantity

cm3/1000 strokes : 10.0

Tolerance

cm3/1000 str. + : 3.0

Spread

cm3/1000 strokes : 6.C

Check tolerance

cm3/1000s. : 6.5

FULL-LOAD SPEED REGULATION

Rated speed rpm : 1410

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 str. + : 3.0

STARTING FUEL DELIVERY

Del. quantity	+ Tolerance
cm3/1000 strokes : 60.0	+ ccm/10s + : 16.6
Tolerance cm3/1000 str. +-: 25.0	Charle to Language
Circle (000 See, += ; 25.0	+ Check tolerance + ccm/10s + : 22.2
	1
	+ DELIVERY AND BREAKAWAY CHARACTERISTIC
	Poted speed speed 1/40
INJECTION-PUMP TEST SPECIFICATIONS	+ Rated speed rpm : 1410 + Del. quantity
21/02012011 10111 1201 01 2021 20/11 20/10	- cm3/1000 strokes : 60.0
TIMING DEVICE CHARACTERISTIC	+ Tolerance
Data di aggiordi aggiorni di 4400	$+ \text{ cm} \frac{3}{1000} \text{ str.} + : 3.0$
Rated speed rpm : 1100	+ Check tolerance + cm3/1000s. +-: 6.5
SV travel mm : 2.9	I (ma) 10003.
Tolerance mm +: 0.4	Rated speed rpm : 1500
Check	+ Del. quantity
tolerance nm + : 0.7	+ cm3/1000 strokes : 7.5 + Check tolerance
Rated speed rpm : 900	+ check toterance + cm3/1000s. +-: 7.5
The same of the sa	1
SV travel mm : 1.1	Rated speed rpm : 1550
Tolerance mm + : 0.4	t Cel. quantity
Check tolerance mm +-: 0.7	+ cm3/1000 strokes : 1.5 + Tolerance
total and many	+ cm3/1000 str. +-: 1.5
Rated speed rpm : 1350	+ Check tolerance
	+ cm3/1000s. +-: 1.5
SV travel mm : 4.9 Tolerance mm +-: 0.4	Rated speed rpm : 1450
Check	Del. quantity
tolerance mm +: 0.4	+ cm3/1000 strokes : 30.0
CURRY NUMBER DESCRIPTIONS	+ Tolerance
SUPPLY PUMP PRESSURE CHARACTERISTIC	+ cm3/1000 str. + : 15.0 + Check tolerance
Rated speed rpm : 600	+ cm3/1000s. +-: 15.0
Supply pomp	+
pressure bar : 3.3	+ Rated speed rpm : 1350
Tolerance bar + : 0.3	+ Del. quantity
Rated speed rpm : 1350	+ cm3/1000 strokes : 78.5 + Tolerance
Supply pomp	+ cm3/1000 str. + : 1.5
pressure bar : 7.3	+ Check tolerance
Tolerance bar + : 0.3	+ cm3/1000s. + : 3.0
OVERFLOW QUANTITY	Rated speed rpm : 800
	Del. quantity
Rated speed rpm : 1350	+ cm3/1000 strokes : 77.0
Overflow quantity	Tolerance
ccm/10s : 97.2 Tolerance	+ cm3/1000 str. + : 2.0 + Check tolerance
ccm/10s +-: 27.7	+ cm3/1000s. +-: 3.5
	+
Check tolerance	Rated speed rpm : 600
ccm/10s +: 41.6	+ Del. quantity + cm3/1000 strokes : 61.0
Rated speed rpm : 600	Tolerance
Overflow quantity	+ cm3/1000 str. + : 3.0
ccm/10s : 63.8	+

Check tolerance			
cm3/1000s. +-	:	4.0	
Rated speed rpm	:	1000	
Del. quantity			
cm3/1000 strokes Tolerance	:	78. 5	
cm3/1000 str. +-	:	0.5	
Check tolerance cm3/1000s. +-		2.5	
(110)	•	6. ³	
MECHANICAL SHUTOF	F		
Rated speed rpm	:	1350	
Del. quantity cm3/1000 strokes	•	1.5	
Tolerance			
cm3/1000 str. +- Spread	:	1.5	
cm3/1000 strokes	:	5.0	
Check tolerance cm3/1000s. +-		1.5	
Spread	•	1.5	
cm3/1000 strokes	:	5.0	
IDLE DELIVERY			
Rated speed rpm	:	450	
Del. quantity cm3/1000 strokes		1.5	
Tolerance	•	1.3	
cm3/1000 str. +-	:	1.5	
Check tolerance cm3/1000s. +-	:	1.5	
	•		
START TRANSITION			
Rated speed rpm Del. quantity	:	500	
cm3/1000 strokes	:	55.0	
Tolerance		15.0	
cm3/1000 str. +-	ï	15.0	
Rated speed rpm	:	350	
Del. quantity			
cm3/1000 strokes Tolerance	:	90.0	
cm3/1000 str. +	:	30.0	

Dimension KF mm : 5,8
Tolerance mm + : 0,2
MS1 dimension mm : 1,65
Tolerance mm + : 0,15
SVS dimension mm : 3,7

End of test-specification sheet

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.04.97 Test oil : ISO 4113

Part no. : 0 460 416 074 Pump designation : VE6/11F1350R417-4

Customer-spec. information

Customer : MAN

Motor : D 0826 GF 04

Power KW : 108.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C + : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar → : 0.05

Test nozzle holde

assembly : 1 68% 31 109

Opening pressure

bar : 207
Tolerance bar + : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0,55 Tolerance mm + : 0,02

Check

tolerance mm +: 0.04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1100

Setting mm : 2.2
Tolerance mm + : 0.2
Shiptoff solenoid

Shutoff solenoid

Volt : 24

SUPPLY PUMP PRESSURE

Rated speed rpm : 1100

Supply pomp

pressure bar : 6.5 Tolerance bar +-: 0.3

Shutoff solenoid

Volt : 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 83.5

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 4.0

Shutoff solenoid

Volt : 24

IDLE SETTING

Rated speed rpm : 300

Del. quantity

cm3/1000 strokes : 10.0

Tolerance

cm3/1000 str. + : 3.0

Shutoff solenoid

Volt : 24

Spread

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 6.5

FULL-LOAD SPEED REGULATION

Del. quantity	+ Shutoff solenoid
cm3/1000 strokes : 60.0	+ Volt : 24
Tolerance	+
cm3/1000 str. + : 3.0	+ Rated speed rpm : 600
Shutoff solenoid	+ Supply pomp
Volt : 24	+ pressure bar : 3.8
	+ Tolerance bar + : 0.3
	+ Shutoff solenoid
SET GRADUATED STARTING DELIVERY	+ Volt : 24
CONTROL LEVER, IDLE STOP	+
	+ OVERFLOW QUANTITY
Rated speed rpm : 100	+
Del. quantity	+ Rated speed rpm : 1350
cm3/1000 strokes : 65.0	+ Overflow quantity
Tolerance	+ ccm/10s : 97.2
cm3/1000 str. + : 1.0	† Tolerance
Shutoff solenoid	+ ccm/10s +-: 27.7
Volt : 24	+
	+ Check tolerance
	+
	+ Shutoff solenoid
	+ Volt : 24
INJECTION-PUMP TEST SPECIFICATIONS	+
	+ Rated speed rpm : 600
TIMING DEVICE CHARACTERISTIC	+ Overflow quantity
	+ ccm/10s : 63.8
Rated speed rpm : 1200	† Tolerance
70.0	+ ccm/10s +: 16.6
SV travel mm : 3.2	† •
Tolerance mm +-: 0.4	+ Check tolerance
Check	+ ccm/10s + : 22.2
tolerance mm +-: 0.7	+ Shutoff solenoid
Shutoff solenoid	+ Volt : 24
Volt : 24	DELTUEDY AND EDERMANAY MIADACTEDICATE
Rated speed rpm : 1000	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm : 1000	Poted aread area 1/10
SV travel mm : 1.5	+ Rated speed rpm : 1410 + Del. quantity
Tolerance mm +-: 0.4	+ cm3/1000 strokes : 60.0
Check	Tolerance
tolerance mm + : 0.7	+ cm3/1000 str. + : 3.0
Shutoff solenoid	Check tolerance
Volt : 24	+ cm3/1000s. + : 4.5
1 24	+ Shutoff solenoid
Rated speed rpm : 1350	+ Volt : 24
Tages special fall 1 1000	1
SV travel mm : 4.1	Rated speed rpm : 1500
Tolerance mm +-: 0.4	+ Del. quantity
Check	+ cm3/1000 strokes : 7.5
tolerance mm +: 0.4	+ Check tolerance
Shutoff solenoid	+ cm3/1000s. + : 7.5
Volt : 24	+ Shutoff solenoid
	+ Volt : 24
SUPPLY PUMP PRESSURE CHARACTERISTIC	+
	Rated speed rpm : 1550
Rated speed rpm : 1350	+ Del. quantity
Supply pomp	+ cm3/1000 strokes : 1.5
pressure bar : 7.7	† Tolerance
Tolerance bar +-: 0.3	+ cm3/1000 str. + : 1.5
	+

Check tolerance		+ Del. quantity
cm3/1000s. +:	1.5	7 Det. quartity
	1.5	+ cm3/1000 strokes : 1.5
Shutoff solenoid		† Tolerance
Volt :	24	+ cm3/1000 str. $+$: 1.5
		+ Spread
Rated speed rpm :	1450	+ cm3/1000 strokes : 5.0
Del. quantity	. ,,,	Check tolerance
cm3/1000 strokes :	30.0	
	30.0	+ cm3/1000s. + : 1.5
Tolerance	4	+ Spread
cm3/1000 str. +:	15.0	+ cm3/1000 strokes : 5.0
Check tolerance		+ Shutoff solenoid
cm3/1000s. + :	15.0	† Volt : 24
Shutoff solenoid		
Volt :	24	
	6 .T	ELECTR. SHUTOFF
Dated aread are	4750	
Rated speed rpm :	1350	+ CONTROL LEVER, IDLE STOP
Del. quantity		†
cm3/1000 strokes :	79.0	+ Rated speed rpm : 300
Tolerance		→ Del. quantity
cm3/1000 str. +:	1.5	+ cm3/1000 strokes : 1.5
Check tolerance		+ Tolerance
cm3/1000s. +:	3.0	cm3/1000 str. + : 1.5
Shutoff solenoid	5.0	<i>T</i>
	•	+ Check tolerance
Volt :	24	+ cm3/10003. +-: 1.5
		+ Spread
Rated speed rpm :	850	+ cm3/1000 strokes : 5.0
Del. quantity		
cm3/1000 strokes :	83.0	FULL-LOAD STOP CONTROL LEVER
Tolerance	93.0	TOLL LOAD STOP CONTROL LEVER
	2.5	Debad and dead 300
cm3/1000 str. +:	2.5	+ Rated speed rpm : 300
Check tolerance		+ Del. quantity
cm3/1000s. +-:	4.0	+ cm3/1000 strokes : 1.5
Shutoff solenoid		+ Tolerance
Volt :	24	+ cm3/1000 str. +-: 1.5
		Spread
Rated speed rpm :	600	cm3/1000 strokes : 5.0
Del. quantity	000	Check tolerance
	(0.0	1
cm3/1000 strokes :	60.0	+ cm3/1000s. + : 1.5
Tolerance		+ Spread
cm3/1000 str. +-:	3.0	+ cm3/1 000 strokes : 5.0
Check tolerance		+
cm3/1000s. +-:	4.0	IDLE DELIVERY
Shutoff solenoid		
Volt :	24	Rated speed rpm : 450
vott .	24	
	4000	+ Del. quantity
Rated speed rpm :	1000	+ cm3/1000 strokes : 1.5
Del. quantity		† Tolerance
cm3/1000 strokes :	83.5	+ cm3/1000 str. +-: 1.5
Tolerance		+ Check tolerance
cm3/1000 str. +-:	ر.0	+ cm3/1000s. +: 1.5
Check tolerance	4.5	+ Shutoff solenoid
	2.5	
cm3/1000s. +:	6.5	+ Volt : 24
Shutoff solenoid	.	†
Volt :	24	†
		+
		 +
MECHANICAL SHUTOFF		1
		•

START TRANSITION

Rated speed rpm : 480

Del. quantity

cm3/1000 strokes : 55.0

Tolerance

cm3/1000 str. +-: 15.0

Shutoff solenoid

Volt 24

Rated speed rpm 300

Del. quantity cm3/1000 strokes : 95.0

Tolerance

cm3/1000 str. +: 30.0

Shutoff solenoid

Volt 24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm Tolerance mm + : 0,2 MS1 dimension mm : 1,15

Tolerance mm + : 0,15 SVS dimension mm : 0.9

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 37,4..40,4

Control lever

position YB mm : 40,2..45,8

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 01.08.90 Test oil : ISO 4113

Part no. : 0 460 404 069 Pump designation : VE4/10F1350R418

Customer—spec. information Customer : MAN

Motor : D 0824 GF01 Power KW : 75.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C +-: 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar +-: 0.05

Test nozzle holde

assembly : 1 688 901 109

Opening pressure

bar : 207 Tolerance bar + : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0,2 Tolerance mm + : 0,02

Check

tolerance mm +-:0.04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000

Setting mm : 3.6 Tolerance mm +-: 0.2 Shutoff solenoid

Volt : 24

SUPPLY PUMP PRESSURE

Rated speed rpm : 1000
Supply pomp
pressure bar : 5.5
Tolerance bar +-: 0.3
Shutoff solenoid
Volt : 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1000
Del. quantity
cm3/1000 strokes : 73.6
Tolerance
cm3/1000 str. + : 0.5
Spread
cm3/1000 strokes : 4.0
Shutoff solenoid
Volt : 24

IDLE SETTING

Rated speed rpm 300 Del. quantity cm3/1000 strokes : 10.0 Tolerance cm3/1000 str. + :3.0 Shutoff solenoid Volt 24 Spread cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 6.5

FULL-LOAD SPEED REGULATION

Del. quantity	+
cm3/1000 strokes : 60.0	+ Rated speed rpm : 1300
Tolerance	† Overflow quantity
cm3/1000 str. +: 3.0	+ ccm/10s : 97.2
Shutoff solenoid	† Tolerance
Volt : 24	+ ccm/10s +: 27.7
	†
STARTING FUEL DELIVERY	+ Check tolerance
- · · · · · · · · · · · · · · · · · · ·	+ ccm/10s +: 41.6
Rated speed rpm : 100	Shutoff solenoid
Del. quantity	† Volt : 24
cm3/1000 strokes : 60.0	T Date 4
Tolerance cm3/1000 str. ← : 20.0	Rated speed rpm : 600
cm3/1000 str. +-: 20.0 Shutoff solenoid	+ Overflow quantity
Volt : 24	+ ccm/10s : 63.8 + Tolerance
vott : 24	+ ccm/10s +: 16.6
	T complies += : 10.0
	T Check tolerance
	ccm/10s +: 22.2
	Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATIONS	
140C01104 104 1201 0120111071120110	, , , , , , , , , , , , , , , , , , , ,
TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
	+
Rated speed rpm : 1300	Rated speed rpm : 1370
	+ Del. quantity
SV travel mm : 7.0	+ cm3/1000 strokes : 60.0
Tolerance mm +-: 0.4	+ Tolerance
Check	+ cm3/1000 str. +-: 3.0
tolerance mm + : 0.7	† Check tolerance
Shutoff solenoid	+ cm3/1000s. +-: 4.5
Volt : 24	+ Shutoff solenoid
	+ Volt : 24
Rated speed rpm : 800	†
04.5	Rated speed rpm : 1480
SV travel mm : 1.5	Del. quantity
Tolerance mm + : 0.4	+ cm3/1000 strokes : 7.5
Check tolerance mm +-: 0.7	- Check tolerance
	+ cm3/1000s. +: 7.5 + Shutoff solenoid
Shutoff solenoid Volt : 24	
vott . 24	† Volt : 24
SUPPLY PUMP PRESSURE CHARACTERISTI	C Rated speed rom : 1550
COLLECT TOTAL THEODOME SUMMODERACIT	Del. quantity
Rated speed rpm : 1300	+ cm3/1000 strokes : 1.5
Supply pomp	Tolerance
pressure bar : 7.2	+ cm3/1000 str. +: 1.5
Tolerance bar +: 0.3	+ Check tolerance
Shutoff solenoid	+ cm3/1000s. + : 1.5
Volt : 24	+ Shutoff solenoid
	+ Volt : 24
Rated speed rpm : 600	+
Supply pomp	+ Rated speed rpm : 1430
pressure bar : 3.4	+ Del. quantity
Tolerance bar +-: 0.3	+ cm3/1000 strokes : 30.0
Shutoff solenoid	Tolerance
Volt : 24	+ cm3/1000 str. +-: 15.0
	Check tolerance
OVERFLOW QUANTITY	+ cm3/1000s. $+$: 15.0

Shutoff solenoid		+				
Volt	: 24	1				
- · · · ·		+	ELECTR. SHUTOFF			
Rated speed rpm	: 1300	†	CONTROL LEVER, IDE	_E ST	OP	
Del. quantity cm3/1000 strokes Tolerance	: 74.6	+	Rated speed rpm Del. quantity	:	300	
cm3/1000 str. +- Check tolerance	: 1.5	Ŧ	cm3/1000 strokes Tolerance	:	1.5	
cm3/1000s. +- Shutoff solenoid	: 3.0	Ŧ	cm3/1000 str. +- Check tolerance	:	1.5	
Volt	: 24	Ŧ	cm3/1000s. +-	:	1.5	
Rated speed rpm Del. quantity	: 800	1	cm3/1000 strokes	:	5.0	
cm3/1000 strokes Tolerance	: 74.2	1	FULL-LOAD STOP CON	NTROL	LEVER	
cm3/1000 str. +- Check tolerance	: 2.0	1	Rated speed rpm Del. quantity	:	300	
cm3/1000s. +- Shutoff solenoid	: 3.5	<u> </u>	cm3/1000 strokes Tolerance	:	1.5	
Volt	: 24	1	cm3/1000 str. +-	:	1.5	
Rated speed rpm Del. quantity	: 600	-	cm3/1000 strokes Check tolerance	:	5.0	
cm3/1000 strokes Tolerance	: 65.8	+	cm3/1000s. +- Spread	:	1.5	
cm3/1000 str. +- Check tolerance	: 3.0	+	cm3/1000 strokes	:	5.0	
cm3/1000s. +- Shutoff solenoid		+	IDLE DELIVERY			
Volt	: 24	++	Rated speed rpm Del. quantity	:	450	
Del. quantity	: 1000	+	cm3/1000 strokes Tolerance		1.5	
cm3/1000 strokes Tolerance		+	cm3/1000 str. +- Check tolerance	:	1.5	
cm3/1000 str. +- Check tolerance		‡	cm3/1000s. +- Shutoff solenoid		1.5	
cm3/1000S. +- Shutoff solenoid		‡	Volt	:	24	
Volt	: 24	‡				
MECHANICAL SHUTOFF	and the second s	†				
Rated speed rpm :	: 1300	Ī	START TRANSITION			
cm3/1000 strokes	: 1.5	1	Rated speed rpm Del. quantity	:	500	
cm3/1000 str. +-: Spread	: 1.5	<u> </u>	cm3/1000 strokes Tolerance	:	55.0	
cm3/1000 strokes :	: 5.0	‡	cm3/1000 str. +- Shutoff solenoid	:	15.0	
cm3/1000s. +-: Spread	: 1.5	‡	Volt	:	24	
cm3/1000 strokes Shutoff solenoid	: 5.0	‡	Rated speed rpm	:	350	
Volt	: 24	‡	Del. quantity cm3/1000 strokes	:	90.0	

Tolerance

cm3/1000 str. +: 25.0

Shutoff solenoid

Volt : 24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,8
Tolerance mm + : 0,2
MS1 dimension mm : 1,6
Tolerance mm + : 0,2

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.11.91 Test oil : ISO 4113

Part no. : 0 460 404 072 Pump designation : VE4/10F1350R418-1

Customer—spec. information Customer : MAN

Motor : D 0824 GF 02 Power kW : 75.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C + : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar +- : 0.05

Test nozzle holde

nssembly : 1 688 901 109

Opening pressure

bar : 207 Tolerance bar +- : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0.55Tolerance mm + : 0.02

Check

tolerance mm +: 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000

Setting mm : 2.9
Tolerance mm + : 0.2
Shutoff solenoid

Volt : 24

SUPPLY PUMP PRESSURE

Rated speed rpm : 1000

Supply pomp

oressure bar : 5.6 Tolerance bar +: 0.3

Shutoff solenoid

Volt : 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1000

Del. quantity cm3/1000 strokes :

m3/1000 strokes : 79.0

Tolerance

cm3/1000 str. +-: 0.5

Spread

cm3/1000 strokes : 4.0

Shutoff solenoid

Volt : 24

IDLE SETTING

Rated speed rpm : 300

Del. quantity

cm3/1000 strokes : 10.0

Tolerance

cm3/1000 str. + : 3.0

Shutoff solenoid

Volt : 24

Spread

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 6.5

FULL-LOAD SPEED REGULATION

Del. quantity	†
cm3/1000 strokes : 62.5	+ Rated speed rpm : 1350
Tolerance	+ Supply pomp
cm3/1000 str. +: 3.0	pressure bar : 7.8
Shutoff salenoid Valt : 24	† Tolerance bar + : 0.3
vott ; 24	+ Shutoff solenoid + Volt : 24
STARTING FUEL DELIVERY	† Volt : 24
STARTING FUEL DELIVERT	OVERFLOW QUANTITY
Rated speed rpm : 100	T OVERTEON GOMMITTI
Del. quantity	Rated speed rpm : 1350
cm3/1000 strokes : 60.0	Overflow quantity
Tolerance	+ ccm/10s : 97.2
cm3/1000 str. + : 20.0	+ Tolerance
Shutoff solenoid	+
Volt : 24	+
	+ Check tolerance
	+ ccin/10s + : 41.6
	† Shutoff solenoid
	† Volt : 24
	+
INJECTION-PUMP TEST SPECIFICATIONS	+ Rated speed rpm : 600
TYMANC DELIVER CHARACTERISTIC	Overflow quantity
TIMING DEVICE CHARACTERISTIC	+ ccm/10s : 63.8
Rated speed rpm : 1200	+ Tolerance + ccm/10s +-: 16.6
Rated speed rpm : 1200	t ccm/10s +-: 16.6
SV travel mm : 5.1	Check tolerance
Tolerance mm +-: 0.4	+ ccm/10s +-: 22.2
Check	+ Shutoff solenoid
tolerance mm +-: 0.7	+ Volt : 24
Shutoff solenoid	+
Volt : 24	DELIVERY AND BREAKAWAY CHARACTERISTIC
	+
	1 0-4-1 4/20
Rated speed rpm : 800	† Rated speed rpm : 1420
	+ Del. quantity
SV travel mm : 0.7	Del. quantity cm3/1000 strokes : 62.5
SV travel mm : 0.7 Tolerance mm + : 0.4	- Del. quantity - cm3/1000 strokes : 62.5 - Tolerance
SV travel mm : 0.7 Tolerance mm +-: 0.4 Check	- Del. quantity - cm3/1000 strokes : 62.5 - Tolerance - cm3/1000 str. → : 3.0
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7	- Del. quantity - cm3/1000 strokes : 62.5 - Tolerance - cm3/1000 str. → : 3.0 - Check tolerance
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Shutoff solenoid	- Del. quantity - cm3/1000 strokes : 62.5 - Tolerance - cm3/1000 str. → : 3.0 - Check tolerance - cm3/1000s. + : 4.5
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7	Del. quantity cm3/1000 strokes : 62.5 Tolerance cm3/1000 str. → : 3.0 Check tolerance cm3/1000S. + : 4.5 Shutoff solenoid
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24	- Del. quantity - cm3/1000 strokes : 62.5 - Tolerance - cm3/1000 str. → : 3.0 - Check tolerance - cm3/1000s. + : 4.5
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Shutoff solenoid	- Del. quantity - cm3/1000 strokes : 62.5 - Tolerance - cm3/1000 str. → : 3.0 - Check tolerance - cm3/1000S. → : 4.5 - Shutoff solenoid - Volt : 24
SV travel mm : 0.7 Tolerance mm +: 0.4 Check tolerance mm +: 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1350	- Del. quantity - cm3/1000 strokes : 62.5 - Tolerance - cm3/1000 str. → : 3.0 - Check tolerance - cm3/1000S. → : 4.5 - Shutoff solenoid - Volt : 24 - Rated speed rpm : 1530
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1350 SV travel mm : 5.7	Del. quantity cm3/1000 strokes : 62.5 Tolerance cm3/1000 str. : 3.0 Check tolerance cm3/1000S. : 4.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1530 Del. quantity
SV travel mm : 0.7 Tolerance mm +: 0.4 Check tolerance mm +: 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1350	- Del. quantity - cm3/1000 strokes : 62.5 - Tolerance - cm3/1000 str. → : 3.0 - Check tolerance - cm3/1000S. → : 4.5 - Shutoff solenoid - Volt : 24 - Rated speed rpm : 1530
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1350 SV travel mm : 5.7 Tolerance mm + : 0.4	Del. quantity cm3/1000 strokes : 62.5 Tolerance cm3/1000 str. : 3.0 Check tolerance cm3/1000s. + : 4.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1530 Del. quantity cm3/1000 strokes : 7.5
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1350 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.4 Shutoff solenoid	Del. quantity cm3/1000 strokes : 62.5 Tolerance cm3/1000 str. :- : 3.0 Check tolerance cm3/1000s. + : 4.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1530 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. + : 7.5 Shutoff solenoid
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1350 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.4	Del. quantity cm3/1000 strokes : 62.5 Tolerance cm3/1000 str. :- : 3.0 Check tolerance cm3/1000s. +- : 4.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1530 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. +- : 7.5
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1350 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.4 Shutoff solenoid Volt : 24	Del. quantity cm3/1000 strokes : 62.5 Tolerance cm3/1000 str. ÷ : 3.0 Check tolerance cm3/1000s. ÷ : 4.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1530 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. ÷ : 7.5 Shutoff solenoid Volt : 24
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1350 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.4 Shutoff solenoid	Del. quantity cm3/1000 strokes : 62.5 Tolerance cm3/1000 str. : 3.0 Check tolerance cm3/1000s. : 4.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1530 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1480
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1350 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC	Del. quantity cm3/1000 strokes : 62.5 Tolerance cm3/1000 str. ÷ : 3.0 Check tolerance cm3/1000s. ÷ : 4.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1530 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. ÷ : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1480 Del. quantity
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1350 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 600	Del. quantity cm3/1000 strokes : 62.5 Tolerance cm3/1000 str. : 3.0 Check tolerance cm3/1000s. : 4.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1530 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1480 Del. quantity cm3/1000 strokes : 30.0
SV travel mm : 0.7 Tolerance mm +: 0.4 Check tolerance mm +: 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1350 SV travel mm : 5.7 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 600 Supply pomp	Del. quantity cm3/1000 strokes : 62.5 Tolerance cm3/1000 str. : 3.0 Check tolerance cm3/1000s. : 4.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1530 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1480 Del. quantity cm3/1000 strokes : 30.0 Tolerance
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1350 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 600 Supply pomp pressure bar : 3.4	Del. quantity cm3/1000 strokes : 62.5 Tolerance cm3/1000 str. : 3.0 Check tolerance cm3/1000s. : 4.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1530 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1480 Del. quantity cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes : 30.0 Tolerance cm3/1000 str. : 15.0
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1350 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 600 Supply pomp pressure bar : 3.4 Tolerance bar + : 0.3	Del. quantity cm3/1000 strokes : 62.5 Tolerance cm3/1000 str. :- : 3.0 Check tolerance cm3/1000s. + : 4.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1530 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. + : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1480 Del. quantity cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes : 30.0 Tolerance cm3/1000 str. + : 15.0 Check tolerance
SV travel mm : 0.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 1350 SV travel mm : 5.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 600 Supply pomp pressure bar : 3.4	Del. quantity cm3/1000 strokes : 62.5 Tolerance cm3/1000 str. : 3.0 Check tolerance cm3/1000s. : 4.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1530 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1480 Del. quantity cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes : 30.0 Tolerance cm3/1000 str. : 15.0

Shutoff solenoid		+
Volt :	24	
Datad aread are	1750	+ ELECTR. SHUTOFF
Rated speed rpm : Del. quantity	1350	CONTROL LEVER, IDLE STOP
cm3/1000 strokes :	80.0	Rated speed rpm : 300
Tolerance		Del. quantity
cm3/1000 str. + :	1.5	+ cm3/1000 strokes : 1.5
Check tolerance	7.0	+ Tolerance
cm3/1000s. +:	3.0	+ cm3/1000 str. +-: 1.5
Shutoff solenoid Volt :	24	+ Check tolerance + cm3/1000s. +-: 1.5
	24	+ Spread
Rated speed rpm :	800	+ cm3/1000 strokes : 5.0
Del. quantity		}
cm3/1000 strokes :	77.0	+ FULL-LOAD STOP CONTROL LEVER
Tolerance cm3/1600 str. +-:	3.0	Dated and an a 700
Check tolerance	3.0	+ Rated speed rpm : 300 + Del. quantity
cm3/1000s. +-:	4.0	cm3/1000 strokes : 1.5
Shutoff solenoid		+ Tolerance
Volt :	24	+ cm3/1000 str. + : 1.5
	400	Spread
Rated speed rpm : Del. quantity	600	cm3/1000 strokes : 5.0
cm3/1000 strokes :	56.0	+ Check tolerance + cm3/1000s. +-: 1.5
Tolerance	50.0	Spread
cm3/1000 str. +-:	3.0	+ cm3/1000 strokes : 5.0
Check tolerance		+
cm3/1000s. +-:	4.0	† IDLE DELIVERY
Shutoff solenoid	24	Poted aread man /50
Volt :	24	+ Rated speed rpm : 450 + Del. quantity
Rated speed rpm :	1000	cm3/1000 strokes : 1.5
Del. quantity		Tolerance
cm3/1000 strokes :	79.0	+ cm3/1000 str. +-: 1.5
Tolerance	0 =	+ Check tolerance
cm3/1000 str. ←: Check tolerence	0.5	+ cm3/1000s. +-: 1.5 Shutoff sulenoid
cm3/1000s. +-:	2.5	Volt : 24
Shutoff solenoid		1
Volt :	24	+
		†
MECHANICAL SHUTOFF		Ī
HERNATONE SHOTOLL		Ţ
Rated speed rpm :	1300	START TRANSITION
Del. quantity		+
cm3/1000 strokes :	1.5	+ Rated speed rpm : 500
Tolerance	1.5	+ Del. quantity + cm3/1000 strokes : 55.0
cm3/1000 str. +: Spread	1.5	+ cm3/1000 strokes : 55.0 + Tolerance
cm3/1000 strokes :	5.0	cm3/1000 str. + : 15.0
Check tolerance		+ Shutoff solenoid
cm3/1000s. +-:	1.5	+ Volt : 24
Spread	F 0	†
cm3/1000 strokes : Shutoff solenoid	5.0	Rated speed rpm : 350
Volt :	24	+ Del. quantity
•		cm3/1000 strokes : 80.0
		·

Tolerance cm3/1000 str. +-: 25.0

Shutoff solenoid

Volt 24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,5
Tolerance mm + : 0,2
MS1 dimension mm : 1,2
Tolerance mm + : 0,1

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.04.97 : ISO 4113 Test oil

: 0 460 426 270 Part no. Pump designation: VE6/12F1250R498-9

Customer-spec. information Customer : CUMMINS Motor : 6 BTAA 5.9L

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C +:

Overflow

restriction mm 0.55

Inlet press. bar : 0.35Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 109 assembly

Opening pressure

207 Tolerance bar +-:

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 840 x length mm

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,4

Tolerance mm + : 0.02(0.06)

Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1000 Aneroid pressure

hPa 1000

Setting mm 1.9 Tolerance mm +-: 0.2

Shutoff solenoid

24 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm : 1000

Aneroid pressure

hPa 1000 Supply pomp

pressure bar Tolerance bar +-:

Shutoff solenoid

Volt 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

6.5

0.3

Rated speed rpm : 750 Aneroid pressure

1000 Del. quantity

cm3/1000 strokes : 83.2

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 5.0

Shutoff solenoid

24 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 64.0

Tolerance

cm3/1000 str. +: 0.5 Spread

5.0 cm3/1000 strokes :

Shutoff solenoid

Volt 24

Check tolerance

5.0 cm3/1000s.

Check tolerance

5.0 cm3/1000s.

TOLE OFFITAIO		+ Aneroid pressure	4000
IDLE SETTING		hPa +	: 1000
Rated speed rpm Del. quantity	: 350	SV travel mm Tolerance mm +	: 0.6 : 0.4
cm3/1000 strokes	: 14.0	+ Check	
Tolerance cm3/1000 str. +	: 2.0	+ tolerance mm ← Shutoff solenoid	: 0.5
Shutoff solenoid Volt	: 24	Volt	: 24
Spread cm3/1000 strokes		Rated speed rpm	: 500
Check tolerance		T SV travel mm	: 2.6
cm3/1000S.	: 7.0	+ Tolerance mm +- Check	: 0.6
		tolerance mm +- Shutoff solenoid	
FULL-LOAD SPEED RI	EGULATION	† Volt	: 24
		KSB/AFB Volt	: 24
Rated speed rpm Pressure hPa		SUPPLY PUMP PRESSU	RE CHARACTERISTIC
Del. quantity cm3/1000 strokes	: 66.0	Rated speed rpm	: 1200
Tolerance cm3/1000 str. +	: 2.0	+ Aneroid pressure + hPa	: 1000
Shutoff solenoid Volt	: 24	+ Supply pomp + pressure bar	
STARTING FUEL DEL	IVERY	Tolerance bar +- Shutoff solenoid	
Rated speed rpm	: 100	† Volt	: 24
Del. quantity cm3/1000 strokes		Rated speed rpm Aneroid pressure	: 850
Tolerance		+ hPa	: 1000
cm3/1000 str. +- Shutoff solenoid	: 15.0	Supply pomp pressure bar	: 6.0
Volt	: 24	Tolerance bar +- Shutoff solenoid	: 0.5
		Volt	: 24
		OVERFLOW QUANTITY	
INJECTION-PUMP TES	ST SPECIFICATIONS	Rated speed rpm Overflow quantity	: 500
TIMING DEVICE CHAP	RACTERISTIC	ccm/10s Tolerance	: 63.8
Rated speed rpm Aneroid pressure	: 1200	+ ccm/10s +	: 16.6
hPa	: 1000	+ Check tolerance + ccm/10s +-	: 22.2
SV travel mm Tolerance mm +	: 2.6 : 0.6	+ Shutoff solenoid + Volt	: 24
Check tolerance mm +-	: 0.7	+ Rated speed rpm	: 1200
Shutoff solenoid Volt	: 24	Aneroid pressure	: 1000
Rated speed rpm	: 850	Overflow quantity ccm/10s	: 83.3

Tolerance ccm/10s +-	: 27.7	+ Del. quantity + cm3/1000 strokes : 83.9
Check tolerance		+ Tolerance + cm3/1000 str. +-: 2.0
ccm/10s +- Shutoff solenoid	: 41.6	+ Check tolerance + cm3/1000s. + : 3.0
Volt	: 24	+ Shutoff solenoid + Volt : 24
	KAWAY CHARACTERISTIC	Rated speed rpm : 500
Rated speed rpm Aneroid pressure	: 1380	+ Aneroid pressure + hPa : 1000
hPa Del. quantity	: 1000	Del. quantity cm3/1000 strokes : 92.6
cm3/1000 strokes Tolerance		+ Tolerance + cm3/1000 str. + : 3.0
cm3/1000 str. ← Check tolerance		Check tolerance + cm3/1000s. + : 5.0
cm3/1000S. +- Shutoff solenoid	: 6.0	Shutoff solenoid Volt : 24
Volt	: 24	Rated speed rpm : 750
Rated speed rpm Aneroid pressure		+ Aneroid pressure + hPa : 1000
hPa Del. quantity	: 1000	+ Del. quantity + cm3/1000 strokes : 83.2
cm3/1000 strokes Check tolerance		+ Tolerance + cm3/1000 str. +-: 0.5
cm3/1000s. +- Shutoff solenoid		- Check tolerance - cm3/1000s. +-: 2.5
Volt	: 24	+ Shutoff solenoid + Volt : 24
Rated speed rpm Aneroid pressure	: 1510	# ************************************
hPa Del. quantity	: 1000	MECHANICAL SHUTOFF
cm3/1000 strokes Tolerance		Rated speed rpm : 1250 Aneroid pressure
cm3/1000 str. +- Check tolerance	• • • • • • • • • • • • • • • • • • • •	hPa : 1000 Del. quantity
cm3/1000s. +- Shutoff solenoid		cm3/1000 strokes : 1.5 Tolerance
Volt	: 24	cm3/1000 str. + : 1.5 Spread
Rated speed rpm Aneroid pressure	: 600	- cm3/1000 strokes : 5.0 - Check tolerance
hPa Del. quantity cm3/1000 strokes	: 500	- cm3/1000s. +-: 1.5 - Spread
Tolerance		cm3/1000 strokes : 5.0 Shutoff solenoid
cm3/1000 str. +- Check tolerance cm3/1000s. +-		+ Volt : 24
Shutoff solenoid	: 3.3	ELECTR. SHUTOFF
		CONTROL LEVER, IDLE STOP
Rated speed rpm Aneroid pressure	: 1200	Rated speed rpm : 350 Del. quantity
hPa	: 1000	+ cm3/1000 strokes : 1.5 +

Tolerance cm3/1000 str. +-: Check tolerance	1.5
cm3/1000s. +-:	1.5
Spread cm3/1000 strokes :	5.0
FULL-LOAD STOP CONTROL	LEVER
Rated speed rpm :	350
Del. quantity cm3/1000 strokes :	1.5
Tolerance cm3/1000 str. +:	1.5
Spread cm3/1000 strokes :	5.0
Check tolerance cm3/1000s. +:	1.5
Spread cm3/1000 strokes :	5.0
IDLE DELIVERY	
Rated speed rpm :	410
Del. quantity cm3/1000 strokes :	1.5
Tolerance cm3/1000 str. +-:	1.5
Check tolerance cm3/1000s. +-:	1.5
Shutoff solenoid Volt :	24
Rated speed rpm :	275
Del. quantity cm3/1000 strokes :	30.0
Tolerance cm3/1000 str. +-:	3.0
START TRANSITION	
	240
Rated speed rpm : Del. quantity	
cm3/1000 strokes : Tolerance	75.0
cm3/1000 str. +-: Shutoff solenoid	15.0
Volt :	24
Rated speed rpm :	150
Del. quantity cm3/1000 strokes :	111.0
Tolerance cm3/1000 str. +-:	20.0

SSEMBLY AND ADJU	JSTMEN	T DIMENSIO	NS
pimension K mm Tolerance mm + Pimension KF mm Tolerance mm + IS1 dimension mm Tolerance mm + SVS dimension mm	- : 0, - : 6, - : 0, - : 1,	1 4 2 35 15	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16.04.97 Edition Test oil : ISO 4113

: 0 460 404 084 Part no. Pump designation : VE4/10F2100R518-1

Customer-spec. information

: IVECO-SOFIM Customer Motor : 8140.67.2200

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C +-:

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

bar 130 Tolerance bar + :

Test lines : 1 680 750 073

Outside diameter : 6.00

2.00 x inside diameter : x length mm 450

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0,2 Tolerance mm +-: 0,02

Check

+-: 0,04 tolerance mm

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1500

Setting mm 5.0 : Tolerance mm 0.1

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1500

Supply pomp

pressure bar 6.7 Tolerance bar +-: 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1500

Del. quantity

cm3/1000 strokes : 43.0

Tolerance

cm3/1000 str. +-:0.5

Spread

cm3/1000 strokes 3.0

Shutoff solenoid

Volt 12

IDLE SETTING

Rated speed rpm 375

Del. quantity cm3/1000 strokes : 14.0

Tolerance

cm3/1000 str. +-:2.0

Shutoff solenoid 12 Valt

Spread

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s.3.0

FULL-LOAD SPEED REGULATION

2300 Rated speed rpm

Del. quantity

cm3/1000 strokes : 29.0

Tolerance		+ Check
cm3/1000 str. +-	: 2.0	+ tolerance mm + : 0.7
Shutoff solenoid		+ Shutoff solenoid
Volt	; 12	+ Volt : 12
		+
STARTING FUEL DEL	IVERY	+ Rated speed rpm : 1150
	· -	+
Rated speed rpm	: 100	+ SV travel mm : 2.7
Del. quantity		+ Tolerance mm + : 0.5
cm3/1000 strokes	: 85.0	Check
Tolerance		+ tolerance mm +: 0.7
cm3/1000 str. +-	: 20.0	+ Shutoff solenoid
Shutoff solenoid		+ Volt : 12
Volt	: 12	+
		+ Rated speed rpm : 2100
		+
		+ SV travel mm : 7.3
LOAD-DEPENDENT STA	ART OF DELIVERY	+ Tolerance mm + : 0.5
SETTING		+ Check
		+ tolerance mm +-: 0.7
DELIVERY DIFFEREN	CE	+ Shutoff solenoid
		+ Volt : 12
Rated speed rpm	: 1500	+
Del. quantity		+ Rated speed rpm : 1500
cm3/1000 strokes	: -22.0	+
Tolerance		+ SUPPLY PUMP PRESSURE CHARACTERISTIC
cm3/1000 str. +-	: 1.0	+
Shutoff solenoid		+ Rated speed rpm : 2100
Volt	: 12	+ Supply pomp
		+ pressure bar : 9.0
PRESSURE DIFFEREN	CE	+ Tolerance bar +-: 0.5
		+ Shutoff solenoid
Rated speed rpm	: 1500	+ Volt : 12
Del. quaritity		+
cm3/1000 strokes	: -0.2	+ Rated speed rpm : 600
Tolerance		+ Supply pomp
cm3/1000 str. +	: 0.1	+ pressure bar : 3.5
Shutoff solenoid		+ Tolerance bar +: 0.5
Volt	: 12	+ Shutoff solenoid
		+ Volt : 12
TIMING-DEVICE TRAN	VEL DIFFERENCE	
6	4500	+ OVERFLOW QUANTITY
Rated speed rpm	: 1500	7
Del. quantity	. 0.5	+ Rated speed rpm : 2100
cm3/1000 strokes	: -0.5	Overflow quantity
Tolerance	. 0.1	+ ccm/10s : 86.1
cm3/1000 str. +- Shutoff solenoid	: 0.1	† Tolerance
Volt	: 12	+ ccm/10s +: 27.7
VOLL	. 12	T Check tolerance
		+ ccm/10s + : 41.6
INJECTION-PUMP TES	ST SPECIETCATIONS	+ Shutoff solenoid
THOUGHT ON THE	or or contractions	+ Volt : 12
TIMING DEVICE CHAP	PACTERISTIC	1
ITITIES PEATOR CHAI	MOTERIOTIE	+ Rated speed rpm : 600
Rated speed rpm	: 1800	+ Overflow quantity
rasea opeca (pii		+ ccm/10s : 58.3
SV travel mm	: 7.1	+ Tolerance
Tolerance mm +		
· ~ ** · ** ** ** *** *** *** *** *** **	: 0.5	+ ccm/10s $+$: 16.6
	: 0.5	+ ccm/10s +: 16.6

Charle talanamas		theck tolerance
Check tolerance ccm/10s + :	22.2	+ cm3/1000s. + : 3.0
Shutoff solenoid	22.2	Shutoff solenoid
Volt :	12	† Volt : 12
V OCC .	12	T Dated aread man . 1500
DELIVERY AND BREAKA	MAY CHADACTEDISTIC	+ Rated speed rpm : 1500 + Del. quantity
DEEL VERT AND BREAKA	WAT CHARACTERISTIC	- cm3/1000 strokes : 43.0
Rated speed rpm :	2300	Tolerance
Del. quantity	2000	+ cm3/1000 str. +: 0.5
cm3/1000 strokes :	29.0	Check tolerance
Tolerance		+ cm3/1000s. + : 2.0
cm3/1000 str. + :	2.0	+ Shutoff solenoid
Check tolerance		+ Volt : 12
cm3/1000s. +-:	6.0	+
Shutoff solenoid		. +
Volt :	12	
	24.00	+ ELECTR. SHUTOFF
The second secon	2400	CONTROL LEVER, IDLE STOP
Del. quantity cm3/1000 strokes :	10.0	Dated around are 1 775
Shutoff solenoid	10.0	+ Rated speed rpm : 375 Del. quantity
Volt :	12	+ cm3/1000 strokes : 1.5
		+ Tolerance
Rated speed rpm :	2600	+ cm3/1000 str. + : 1.5
Del. quantity		- Check tolerance
cm3/1000 strokes :	1.5	+ cm3/1000s. + : 1.5
Tolerance		† Spread
cm3/1000 str. +-:	1.5	+ cm3/1000 strokes : 5.0
Check tolerance	A 5	
cm3/1000s. +: Shutoff solenoid	1.5	FULL-LOAD STOP CONTROL LEVER
Volt :	12	7 Rated speed rpm : 373
•	12	+ Del. quantity
Rated speed rpm :	2100	- cm3/1000 strokes : 1.5
Del. quantity		+ Tolerance
cm3/1000 strokes :	44.0	+ cm3/1000 str. +: 1.5
Tolerance		+ Check tolerance
cm3/1000 str. +:	2.0	+ cm3/1000s. + : 1.5
Check tolerance	2.5	†
cm3/1000s. +:	2.5	† IDLE DELIVERY
Shutoff solenoid Volt :	12	+ Rated speed rpm : 465
	12	+ Rated speed rpm : 465 - Del. quantity
Rated speed rpm :	1000	+ cm3/1000 strokes : 1.5
Del. quantity		+ Tolerance
cm3/1000 strokes :	41.0	+ cm3/1000 str. + : 1.5
Tolerance		† Check tolerance
cm3/1000 str. +:	2.0	+ cm3/1000s. +-: 1.5
Check tolerance		+ Shutoff solenoid
cm3/1000s. +:	2.5	† Volt : 12
Shutoff solenoid	12	†
Volt :	16	I
Rated speed rpm :	600	1
Del. quantity	V	
cm3/1000 strokes :	36.5	+ CHECKING LOAD-DEPENDENT
Tolerance		+ START OF DELIVERY
cm3/1000 str +-:	2.5	+
		+ DELIVERY DIFFERENCE

Rated speed rpm Del. quantity	:	1500
cm3/1000 strokes	:	-23.0
Tolerance cm3/1000 str. +-	:	3.0
Check tolerance cm3/1000s. +-	:	4.0
Shutoff solenoid Volt	:	12
TIMING-DEVICE TRA	VEL	DIFFERENCE
Rated speed rpm	:	1500
Del. quantity cm3/1000 strokes	:	-0.5
Tolerance cm3/1000 str. +-	:	0.1
Check tolerance cm3/1000s. +-	:	0.1
Shutoff solenoid Volt	:	12
DELIVERY DIFFEREN	-	
		4500
Rated speed rpm Del. quantity	•	1500
cm3/1000 strokes Tolerance	:	1.0
cm3/1000 str. +- Check tolerance	:	1.0
cm3/1000s. +- Shutoff solenoid	:	1.0
Volt	:	12
TIMING-DEVICE TRA	VEL	DIFFERENCE
Rated speed rpm		1500
Tolerance mm +- Check	:	0.4
tolerance mm +- Shutoff solenoid	:	0.4
Volt	•	12
START TRANSITION		
Rated speed rpm Del. quantity	:	500
cm3/1000 strokes Tolerance	:	35.0
cm3/1000 str. +- Shutoff solenoid	:	10.0
Volt	:	12
Rated speed rpm Del. quantity	:	300
cm3/1000 strokes	•	70.0

Tolerance cm3/1000 str. + : 15.0 Shutoff solenoid Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,8
Tolerance mm + : 0,2
Dimension MS mm : 1,8
Tolerance mm + : 0,1

CONTROL LEVER POSITION

SE

Control lever

position YA mm : 37,9..39,9

Control Lever

position YB mm : 41,8..47,0

End of test-specification sheet

cm3/1000 strokes : 70.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 10.04.97 Edition Test oil : ISO 4113

: 0 460 424 140 Part no. Pump designation : VE4/12F1250R695

Sustomer-spec, information

: PERKINS Customer

: Phaser 135 TI Motor Power KW 100.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance *C +-:

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar +-:

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 Tolerance bar +-:

: 1 680 750 073 Test lines

6.00 Outside diameter :

x inside diameter : 2.00 x length mm 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,0

Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

1000 Rated speed rpm

Aneroid pressure

1500 hPa

Setting mm 1.7 Tolerance mm 0.1

Shutoff solenoid

24 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1000

Aneroid pressure

1500 hPa Supply pomp

pressure bar 6.4 0.3

Tolerance bar +-: Shutoff solenoid

Volt 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 750

Aneroid pressure hPa 1500

Del. quantity

cm3/1000 strokes : 91.5

Tolerance

cm3/1000 str. +-:0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 4.0

Shutoff solenoid

24 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

400 Rated speed rpm

Del. quantity

cm3/1000 strokes : 59.0

Tolerance

cm3/1000 str. +-:0.5

Shutoff solenoid

Volt 24

Check tolerance

cm3/1000s.4.0

IDLE SETTING

365 Rated speed rpm :

K05

Del. quantity	+ Check
cm3/1000 strokes : 8.0	tolerance mm +: 0.6
Tolerance cm3/1000 str. +: 2.0	+ Shutoff solenoid + Volt : 24
Shutoff solenoid	Ţ Vott . 24
Volt : 24 Spread	Rated speed rpm : 1250 Aneroid pressure
cm3/1000 strokes : 5.0 Check tolerance	hPa : 1500
cm3/1000s. : 5.0	SV travel mm : 3.3
	† Tolerance mm ++: 0.3 † Check
	<pre>+ tolerance mm + : 0.7 + Shutoff solenoid</pre>
FULL-LOAD SPEED REGULATION	Volt : 24
	+
Rated speed rpm : 1340	+ SUPPLY PUMP PRESSURE CHARACTERISTIC
Pressure hPa : 1500 Del. quantity	Rated speed rpm : 1250
cm3/1000 strokes : 82.0	+ Aneroid pressure
Tolerance	+ hPa : 1500
cm3/1000 str. + : 2.0 Shutoff solenoid	+ Supply pomp + pressure bar : 7.5
Volt : 24	Tolerance bar +: 0.3
	+ Shutoff solenoid
STARTING FUEL DELIVERY	† Volt : 24
Rated speed rpm : 100	Rated speed rpm : 700
Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 90.0	+ hPa : 1500
Tolerance cm3/1000 str. +-: 15.0	+ Supply pomp + pressure bar : 5.1
Shutoff solenoid	+ Tolerance bar +: 0.3
Volt : 24	+ Shutoff solenoid
	† Volt : 24
	OVERFLOW QUANTITY
	Rated speed rpm : 1250
INJECTION-PUMP TEST SPECIFICATIONS	+ Aneroid pressure
TIMING DEVICE CHARACTERISTIC	† hPa : 1500 † Overflow quantity
ITHING PEATCE CHARACTERISTIC	- ccm/10s : 83.3
Rated speed rpm : 1100	+ Tolerance
Aneroid pressure hPa : 1500	+ ccm/10s + : 27.7
hPa : 1500	T Check tolerance
SV travel mm : 2.6	+ ccm/10s + : 27.7
Tolerance mm +: 0.3	+ Shutoff solenoid
Check tolerance mm + : 0.7	† Volt : 24
Shutoff solenoid	Rated speed rpm : 500
Volt : 24	+ Aneroid pressure
Rated speed rpm : 900	+ hPa : 1500 + Overflow quantity
Rated speed rpm : 900 Aneroid pressure	+ ccm/10s : 63.8
hPa : 1500	† Tolerance
	+ ccm/10s +: 16.6
SV travel mm : 0.8 Tolerance mm +-: 0.3	Ī
TOTEL OF ICE THE TOTAL CO. D.	l

			ı	Tolomones			
Check tolerance			I	Tolerance cm3/1000 str. +-		2.5	
ccm/10s +	•	16.6	I	Check tolerance	•	2.5	
Shutoff solenoid	•		1	cm3/1000s. +-		3.5	
Volt	•	24	1	Shutoff solenoid	•	3. 5	
	•	2,	1	Volt	•	24	
DELIVERY AND BREAK	KAWAY C	HARACTERISTIC	1		•	- +	
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1	Rated speed rpm	:	1000	
Rated speed rpm	: 13	40	1	Aneroid pressure	•		
Aneroid pressure	•		1	hPa	:	1500	
hPa	:	1500	+	Del. quantity	•	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Del. quantity			+	cm3/1000 strokes	:	90.5	
cm3/1000 strokes	:	82.0	+	Tolerance			
Tolerance			+	cm3/1000 str. +-	:	2.5	
cm3/1000 str. +-	:	2.0	+	Shutoff solenoid			
Check tolerance			+	Volt	:	24	
cm3/1000s. +-	:	6.0	+				
Shutoff solenoid		.	+	Rated speed rpm	•	500	
Volt	:	24	+	Aneroid pressure			
.			+	hPa	:	1500	
Rated speed rpm	: 14	()	†	Del. quantity		400.0	
Aneroid pressure		4500	†	cm3/1000 strokes	:	100.0	
hPa Doi: munditus	:	1500	†	Tolerance		2.5	
Del. quantity cm3/1000 strokes		20.0	T	cm3/1000 str. +-	:	2.5	
Check tolerance	•	20.0	T	Check tolerance cm3/1000s. +-		3.5	
cm3/1000s. +	•	10.0	I	cm3/1000S. +- Shutoff solenoid	•	3.5	
Shutoff solenoid	•	10.0	Ţ	Volt	:	24	
Volt	•	24	I	VOCC	•	24	
1011	•	64	1	Rated speed rpm	:	750	
Rated speed rpm	: 14	75	1	Aneroid pressure	•	100	
Aneroid pressure	• • •	, ,	1	hPa	•	1500	
hPa	:	1500	1_	Dal. quantity	•	,500	
Del. quantity	•		+	cm3/1000 strokes	:	91.5	
cm3/1000 strokes	:	1.5	+	Tolerance			
Tolerance			+	cm3/1000 str. +-	:	0.5	
cm3/1000 str. +-	:	1.5	+	Check tolerance			
Check tolerance			÷	cm3/1000s. +-	:	3.0	
cm $3/1000$ s. \leftarrow	:	1.5	+	Shutoff solenoid			
Shutoff solenoid			+	Volt	:	24	
Volt	:	24	+				
Bakad 1	_	00	+	AAR 61141 - 641 - 611 - 61			
Rated speed rpm	: 5	00	†	MECHANICAL SHUTOF	-		
Aneroid pressure	_	400	7	Dahad amaad		1250	
hPa	:	600	†	Rated speed rpm	:	1250	
Del. quantity cm3/1000 strokes		81.5	I	Aneroid pressure hPa		1500	
Tolerance	•	01.5	T	Del. quantity	•	1300	
cm3/1000 str. +-	•	0.5	I	cm3/1000 strokes		1.5	
Check tolerance	•	0.7	I	Tolerance	•	1.5	
cm3/1000s. +-	:	3.0	1	cm3/1000 str. +	•	1.5	
Shutoff solenoid	-		+	Spread	•		
Volt	:	24	+	cm3/1000 strokes	:	5.0	
	•	- ·	+	Check tolerance	-	- • -	
Rated speed rpm	: 12	50	+	cm3/1000s. +-	:	1.5	
Aneroid pressure			+	Spread			
hPa	:	1500	+	cm3/1000 strokes	:	5.0	
Del. quantity			+	Shutoff solenoid			
cm3/1000 strokes	:	90.5	+	Volt	:	24	
			+				

	†
ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP	START TRANSITION
	Rated speed rpm : 220
Del. quantity	+ Del. quantity + cm3/1000 strokes : 60.0
cm3/1000 strokes : 1.5 Tolerance	+ Tolerance + cm3/1000 str. +-: 10.0
cm3/1000 str. +-: 1.5	+ Shutoff solenoid
Check tolerance cm3/1000s. ←: 1.5	+ Volt : 24
Spread	Data Language App
cm3/1000 strokes : 5.0	+ Rated speed rpm : 150 + Del. quantity
FULL-LOAD STOP CONTROL LEVER	+ cm3/1000 strokes : 95.0 + Tolerance
Rated speed rpm : 370	+ cm3/1000 str. + : 15.0
Del. quantity cm3/1000 strokes : 1.5	+ Shutoff solenoid + Volt : 24
Tolerance cm3/1000 str. +-: 1.5	<u> </u>
Spread	ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes : 5.0 Check tolerance	Dimension K mm : 3,7
cm3/1000s. +-: 1.5 Spread	Tolerance mm + : 0,1 Dimension KF mm : 6,4
cm3/1000 strokes : 5.0	+ Tolerance mm + : 0,2 + MS1 dimension mm : 1,75
IDLE DELIVERY	Tolerance mm + : 0,15
Rated speed rpm : 415	Ţ
Del. quantity cm3/1000 strokes : 1.5	CONTROL LEVER POSITION
Tolerance cm3/1000 str. +-: 1.5	+ SET
Check tolerance cm3/1000s. +-: 1.5	Control Lever
Shutoff solenoid	position YA mm : 31,533,5
Volt : 24	Control lever
Rated speed rpm : 290 Del. quantity	position YB mm : 53,161,7
cm3/1000 strokes : 45.0 Tolerance	†
cm3/1000 str. +-: 7.0	
Shutoff solenoid Volt : 24	+ End of test-specification sheet
Rated speed rpm : 315	‡
Del. quantity cm3/1000 strokes : 40.0 Tolerance	‡
I O LEI GI ICE	T
cm3/1000 str. +: 5.0 Shutoff solenoid	†

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 11.04.97 Edition Test oil : ISO 4113

Part no. : 0 460 424 148 Pump designation : VE4/12F1800R723

Customer-spec. information

Customer : IVECO-SOFIM : 8140.43.2639 Motor Power KW 85.0

TEST BENCH REQUIREMENTS

Calibrating-oil return

temperature *C Tolerance °C + :

Overflow

0.75 restriction mm

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

: 7 688 901 027 assembly

Opening pressure

250 Tolerance bar + :

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 450

x length mm

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1100 Aneroid pressure

hPa 1200

Setting mm 2.0 Tolerance mm +-: 0.1 Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1100 Aneroid pressure

hPa 1200

Supply pomp 6.2 pressure bar Tolerance bar + : 0.3

Shutoff solenoid Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1100

Aneroid pressure

hPa 1200

Del. quantity

cm3/1000 strokes : 58.0

Tolerance

cm3/1000 str. + :0.5 Spread

cm3/1000 strokes :

4.0 Check tolerance

cm3/1000s.

4.5

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 550 Del. quantity

cm3/1000 strokes : 28.0

Tolerance

cm3/1000 str. + :0.5

Shutoff solenoid

Volt 12

Check tolerance

cm3/1000s. 4.5

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 450

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 str. + :4.0

Shutoff solenoid Volt : 12	Shutoff solenoid Volt : 12
IDLE DELIVERY	PRESSURE DIFFERENCE
Rated speed rpm : 350 Del. quantity	Rated speed rpm : 1100 Aneroid pressure
cm3/1000 strokes : 12.0 Tolerance	hPa : 1200 Del. quantity
cm3/1000 str. +-: 2.0 Spread	cm3/1000 strokes : -0.2 Tolerance
cm3/1000 strokes : 6.0 Shutoff solenoid	cm3/1000 str. +-: 0.1 Shutoff solenoid
Volt : 12	Volt : 12
HIGH IDLE SETTING	TIMING-DEVICE TRAVEL DIFFERENCE
Rated speed rpm : 410 Del. quantity	Rated speed rpm : 1100 Aneroid pressure
cm3/1000 strokes : 12.0 Tolerance	+ hPa : 1200 + Del. quantity
cm3/1000 str. + : 2.0 Shutoff solenoid Volt : 12	t cm3/1000 strokes : -1.0 Tolerance
Volt : 12 FULL-LOAD SPEED REGULATION	cm3/1000 str. + : 0.1 Shutoff solenoid Volt : 12
Rated speed rpm : 2000	
Pressure hPa : 1200 Del. quantity	INJECTION-PUMP TEST SPECIFICATIONS
cm3/1000 strokes : 45.0 Tolerance	TIMING DEVICE CHARACTERISTIC
cm3/1000 str. +-: 3.0 Shutoff solenoid	Rated speed rpm : 1600 Aneroid pressure
Volt : 12	† hPa : 1200
STARTING FUEL DELIVERY	+ SV travel mm : 4.6 + Tolerance mm + : 0.6
Rated speed rpm : 100 Del. quantity	Tolerance mm + : 0.6 Check tolerance mm + : 0.7
Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 90.0 Tolerance	rolerance mm +-: 0.6 Check
Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 str. + : 25.0 Shutoff solenoid	Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Shutoff solenoid
Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 str. +- : 25.0	Tolerance mm + : 0.6 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1800
Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 str. + : 25.0 Shutoff solenoid	Tolerance mm +: 0.6 Check tolerance mm +: 0.7 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1800 Aneroid pressure hPa : 1200
Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 str. + : 25.0 Shutoff solenoid Volt : 12	Tolerance mm +: 0.6 Check tolerance mm +: 0.7 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1800 Aneroid pressure
Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 str. + : 25.0 Shutoff solenoid Volt : 12 LOAD-DEPENDENT START OF DELIVERY SETTING DELIVERY DIFFERENCE	Tolerance mm +: 0.6 Check tolerance mm +: 0.7 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1800 Aneroid pressure hPa : 1200 Supply pomp pressure bar : 8.0
Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 str. + : 25.0 Shutoff solenoid Volt : 12 LOAD-DEPENDENT START OF DELIVERY SETTING DELIVERY DIFFERENCE Rated speed rpm : 1100 Pressure hPa : 1200	Check tolerance mm +: 0.7 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1800 Aneroid pressure hPa : 1200 Supply pomp pressure bar : 8.0 Tolerance bar +: 0.5 Shutoff solenoid Volt : 12 Rated speed rpm : 600
Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 str. + : 25.0 Shutoff solenoid Volt : 12 LOAD-DEPENDENT START OF DELIVERY SETTING DELIVERY DIFFERENCE Rated speed rpm : 1100	Tolerance mm +: 0.6 Check tolerance mm +: 0.7 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1800 Aneroid pressure hPa : 1200 Supply pomp pressure bar : 8.0 Tolerance bar +: 0.5 Shutoff solenoid Volt : 12

Shutoff solenoid Volt	:	12	‡	Tolerance cm3/1000 str. +	: 2.0
OVERFLOW QUANTITY			Ŧ	Check tolerance cm3/1000s. +-	2.0
Rated speed rpm Aneroid pressure	:	1800	1	Shutoff solenoid Volt	: 12
hPa Overflow quantity	:	1200	+	The second secon	700
ccm/10s Tolerance	:	166.6	Ī	Aneroid pressure hPa	: 400
ccm/10s +	:	27.7	‡	LDA/ HBA stroke mm	: 6.5
Check tolerance	:	41.6	‡	Del. quantity cm3/1000 strokes	: 47.0
Shutoff solenoid Volt	:	12	+	Tolerance cm3/1000 str. +-	0.5
Rated speed rpm Aneroid pressure	:	600	<u> </u>	Check tolerance cm3/1000s. +- Shutoff solenoid	3.5
hPa Overflow quantity	:	1200	I	Volt	: 12
ccm/10s Tolerance	:	133.3	+	Rated speed rpm Aneroid pressure	: 1800
ccm/10s +-	:	16.6	+	hPa Del. quantity	1200
Check tolerance ccm/10s +-	:	22.2	+	cm3/1000 strokes Tolerance	64.0
Shutoff solenoid Volt	:	12	+	cm3/1000 str. +- Check tolerance	
DELIVERY AND BREAK	KAW	AY CHARACTERIS	STIC	cm3/1000s. +- Shutoff solenoid	3.5
Rated speed rpm	:	2000	‡	Volt	: 12
Aneroid pressure hPa Del. quantity	:	1200	Ŧ	Rated speed rpm Aneroid pressure hPa	: 900 : 1200
cm3/1000 strokes Tolerance	:	45.0	I	Del. quantity cm3/1000 strokes	58.0
cm3/1000 str. +- Check tolerance	:	3.0		Tolerance cm3/1000 str. +-	
cm3/1000s. +- Shutoff solenoid	:	6.0	+	Check tolerance cm3/1000s. +-	
Volt	:	12	1	Shutoff solenoid Volt	: 12
Rated speed rpm Aneroid pressure	:	2100	1	Rated speed rpm	: 600
hPa Del. quantity	:	1200	1	Aneroid pressure	: 1200
cm3/1000 strokes Check tolerance	:	23.0	\pm	Del. quantity cm3/1000 strokes	66.0
cm3/1000s. +-	:	7.0	Ŧ	Tolerance	
Shutoff solenoid Volt	:	12	+	cm3/1000 str. + : Check tolerance	
Rated speed rpm	:	2200	Ŧ	cm3/1000s. +-: Shutoff solenoid	
Aneroid pressure hPa	:	1200	‡	Volt	: 12
Del. quantity cm3/1000 strokes	:	2.0	‡	Rated speed rpm	: 1100

Aneroid pressure +	Del. quantity
hPa : 1200 +	cm3/1000 strokes : 38.0
Del. quantity	Tolerance
cm3/1000 strokes : 58.0	cm3/1000 str. +-: 8.0
Tolerance	Shutoff solenoid
cm3/1000 str. +: 0.5	Volt : 12
Check tolerance +	
cm3/1000s. +-: 3.5	
Shutoff solenoid +	CHECKING LOAD-DEPENDENT
Volt : 12 +	START OF DELIVERY
1	
1	DELIVERY DIFFERENCE
ELECTR. SHUTOFF	Rated speed rpm : 1100
CONTROL LEVER, IDLE STOP	
CONTROC CEVER, TOLE STOP	Aneroid pressure
0.4	hPa : 1200
Rated speed rpm : 400	Del. quantity
Del. quantity +	cm3/1000 strokes : -32.0
cm3/1000 strokes : 1.5	Tolerance
Tolerance +	cm3/1000 str. + : 4.0
cm3/1000 str. +-: 1.5	Check tolerance
Check tolerance	cm3/1000s. +-: 4.5
cm3/1000s. + : 1.5	Shutoff solenoid
Spread	Volt : 12
cm3/1000 strokes : 5.0	
	TIMING-DEVICE TRAVEL DIFFERENCE
FULL-LOAD STOP CONTROL LEVER	THING DEVICE THAVEE DIFFERENCE
TOLE-EUND STOP CONTROL LEVER	Debad speed sum
700	Rated speed rpm : 1100
Rated speed rpm : 400	Aneroid pressure
Del. quantity +	hPa : 1200
cm3/1000 strokes : 1.5	Del. quantity
Tolerance	cm3/1000 strokes : -1.0
cm3/1000 str. + : 1.5	Tolerance
Spread	cm3/1000 str. + : 0.1
cm3/1000 strokes : 5.0	Check tolerance
Check tolerance	cm3/1000s. +-: 0.2
cm3/1000s. +-: 1.5	Shutoff solenoid
Spread	Volt : 12
cm3/1000 strokes : 5.0	
1	DELIVERY DIFFERENCE
\mathbf{I}	DELIVERY DIFFERENCE
Ţ	Rated speed rpm : 1100
	Aneroid prassure
DECTRIAL GUARITITY	
RESIDUAL QUANTITY +	hPa : 1200
Description of the second seco	Del. quantity
Rated speed rpm : 550 +	cm3/1000 strokes : 5.0
Del. quantity +	Tolerance
cm3/1000 strokes : 3.0	cm3/1000 str. +-: 1.5
Tolerance +	Check tolerance
cm3/1000 str. + : 3.0 +	cm3/1000s. +-: 1.5
Check tolerance	Shutoff solenoid
cm3/1000s, +: 3.0	Volt : 12
Shutoff solenoid	
Volt : 12	TIMING-DEVICE TRAVEL DIFFERENCE
	STITING PEATOR HANGE NTI LEURINGE
	Pated speed rom + 1100
TOLE DELTHERY	Rated speed rpm : 1100
IDLE DELIVERY	Aneroid pressure
7	hPa : 1200
Rated speed rpm : 250	Tolerance mm +-: 0.4

Check	
tolerance mm +-	: 0.4
Shutoff solenoid	
Volt	: 12
EXHAUST-GAS RECIR	CULATION
Rated speed rpm	: 1100
Aneroid pressure hPa	: 1200
Del. quentity	, 1200
cm3/1000 strokes	: 26.0
Tolerance	
cm3/1000 str. +	: 0.5
Check tolerance cm3/1000s. ⊣	: 4.0
Shutoff solenoid	• 7.0
Volt	: 12
START TRANSITION	
	750
Rated speed rpm	: 350
Del. quantity cm3/1000 strokes	: 21.0
Tolerance	. 21.0
cm3/1000 str. +-	: 4.0
Shutoff solenoid	
Volt	: 12
ASSEMBLY AND ADJU	STMEINT DIMENSIONS
LDA/ HBA stroke mm	: 6.5
Dimension K mm	: 3,6
Tolerance mm +	: 0,1
Dimension KF mm	: 8,4
Tolerance mm +-	: 0,2
SVS dimension mm	: 5,2
CONTROL LEVER POS	TTION
SET	∓ • ▼ **
Control lever	
position YA mm	: 29,333,3
Control lever	(4 4 70 0
position YB mm	: 61,1/0,9

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.04.97 Test oil : ISO 4113

: O 460 416 D49H Part no. Pump designation : VE6/11F1250L218-2H

Customer-spec. information Customer : PENTA Motor : TMD 41 Power KW : 107.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 110 assembly

Opening pressure

250 bar Tolerance bar + :

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mn : 0.3Tolerance mm +-: 0,02

Check

tolerance mm + : 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1200

Aneroid pressure

hPa 1000

Setting mm 4.1 Tolerance mm 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm : 1200

Aneroid pressure

hPa 1000 :

Supply pomp

pressure bar 6.3

Tolerance bar +-: 0.3

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 700

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 73.0

Tolerance

cm3/1000 str. +-:0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 5.0

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 650

Del. quantity

cm3/1000 strokes : 41.0

Tolerance

cm3/1000 str. +: 0.5

Check tolerance

cm3/1000s. 5.0

IDLE SETTING

Rated speed rpm : 250

Del. quantity

cm3/1000 strokes : 10.0

Tolerance

cm3/1000 str. +: 0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s. : 5.0	+ Rated speed rpm : 650 + Overflow quantity
	ccm/10s : 63.8 Tolerance
	ccm/10s +-: 16.6
FULL-LOAD SPEED REGULATION	+ Check tolerance
Rated speed rpm : 1400	ccm/10s +: 16.6
Pressure hPa : 1000 Del. quantity	Rated speed rpm : 1200 Aneroid pressure
cm3/1000 strokes : 55.0	+ hPa : 1000
cm3/1000 str. +: 0.5	Overflow quantity ccm/10s : 80.5
STARTING FUEL DELIVERY	Tolerance + : 22.2
Rated speed rpm : 100	Check tolerance
Del. quantity cm3/1000 strokes : 70.0	ccm/10s +: 22.2
Tolerance	DELIVERY AND BREAKAWAY CHARACTERISTIC
cm3/1000 str. + : 20.0	1
	Rated speed rpm : 1400 Aneroid pressure
	hPa : 1000 + Del. quantity
INJECTION-PUMP TEST SPECIFICATIONS	+ cm3/1000 strokes : 55.0 + Tolerance
TIMING DEVICE CHARACTERISTIC	cm3/1000 str. + : 0.5 Check tolerance
	cm3/1000s. +: 4.0
Rated speed rpm : 800 Aneroid pressure	Rated speed rpm : 1500
hPa : 1000	+ Aneroid pressure
	+ hPa : 1000
SV travel mm : 1.3 Tolerance mm + : 0.6	+ Del. quantity + cm3/1000 strokes : 22.0
Check	Tolerance 22.8
tolerance mm + : 0.7	+ cm3/1000 str. + : 8.0 + Check tolerance
Rated speed rpm : 1400 Aneroid pressure	cm3/1000s. +: 8.0
hPa : 1000	Rated speed rpm : 1750 Aneroid pressure
SV travel mm : 4.9	+ hPa : 1000
Tolerance mm + : 0.6 Check	+ Del. quantity + cm3/1000 strokes : 1.5
tolerance mm + : 0.7	+ Check tolerance + cm3/1000s. + : 1.5
SUPPLY PUMP PRESSURE CHARACTERISTIC	+
Saturd arrand man a 900	+ Rated speed rpm : 900
Rated speed rpm : 800 Aneroid pressure	+ Aneroid pressure + hPa : 550
hPa : 1000	+
Supply pomp	+ LDA/
pressure bar : 5.3 Tolerance bar +-: 0.5	+ HBA stroke mm : 6.3 + Del. quantity
	+ cm3/1000 strokes : 67.5
OVERFLOW QUANTITY	+ Tolerance + cm3/1000 str. +-: 0.5

Check tolerance cm3/1000s. +-	:	3.0	
Rated speed rpm Del. quantity	:	1200	
cm3/1000 strokes Check tolerance	:	65.5	
cm3/1000s. +-	:	3.0	
Rated speed rpm Aneroid pressure	:	700	
hPa Del. quantity	:	1000	
cm3/1000 strokes Tolerance	:	73.0	
cm3/1000 str. +- Check tolerance	:	0.5	
cm3/1000s. +-	:	2.5	

MECHANICAL SHUTOFF

Rated speed rpm	:	1200
Aneroid pressure hPa	:	1000
Del. quantity cm3/1000 strokes	:	1.5
Tolerance cm3/1000 str. +-	:	1.5
Spread cm3/1000 strokes	•	5.0
Check tolerance cm3/70003. +-	•	1.5
Spread	•	
cm3/1000 strokes	:	5.0

ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP

Rated speed rpm	:	250
Del. quantity cm3/1000 strokes	:	1.5
Tolerance cm3/1000 str. +		4 5
Check tolerance	•	1.5
cm3/1000s. +-	:	1.5
Spread		- 0
cm3/1000 strokes Shutoff solenoid	:	5.0
Volt	:	12

Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 45.0

Tolerance

cm3/1000 str. + : 15.0

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 6.3

Dimension KF mm : 5,4 Tolerance mm ←: 0,2 Dimension MS mm : 1,3 Tolerance mm + : 0,2

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 37,2. 38,2

Control lever

position YB mm : 56,9..64,5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.04.97 Test oil : ISO 4113

: 0 460 485 035 Part no. Pump designation: VE5/8F2100L746

Customer-spec. information Customer : VW Motor : 2.4L SD Power KW 55.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C +-:

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 000 assembly

Opening pressure

Tolerance bar + : 3

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Setting mm 4.3 Tolerance mm +-: 0.2 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1500 Supply pomp

pressure bar 7.4 Tolerance bar +-: 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250 Del. quantity

cm3/1000 strokes : 36.9

Tolerance

cm3/1000 str. +-: 0.5

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Valt

IDLE SETTING

Rated speed rpm : 415

Del. quantity

cm3/1000 strokes : 8.0

Tolerance

cm3/1000 str. + :1.0

Shutoff solenoid

Volt 12 Spread

cm3/1000 strokes : 2.0

Check tolerance

cm3/1000s. 3.0

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2400 Del. quantity

cm3/1000 strokes : 12.0

Tolerance

cm3/1000 str. +-: 2.0

Shutoff solenoid

Volt 12

STARTING FUEL DELIVERY

100 Rated speed rpm :

Del. quantity	+ Check
cm3/1000 strokes : 60.0	+ tolerance mm +-: 0.6
Tolerance	+ Shutoff solenoid
cm3/1000 str. +: 25.0	+ Volt : 12
Shutoff solenoid	1
Volt : 12	CURDLY DIMD DESCRIPT CHARACTERICITY
vott : 12	SUPPLY PUMP PRESSURE CHARACTERISTIC
	†
	+ Rated speed rpm : 1790
	+ Supply pomp
LOAD-DEPENDENT START OF DELIVERY	+ pressure bar : 8.1
SETTING	+ Tolerance bar + : 0.3
	+ Shutoff solenoid
DELIVERY DIFFERENCE	+ Volt : 12
Rated speed rpm : 1500	Rated speed rpm : 1100
Del. quantity	- Supply pomp
cm3/1000 strokes : -7.0	+ pressure bar : 6.2
Tolerance	+ Tolerance bar +-: 0.3
cm3/1000 str. +-: 1.0	+ Shutoff solenoid
Shutoff solenoid	+ Volt : 12
Volt : 12	+
	+ OVERFLOW QUANTITY
PRESSURE DIFFERENCE	TO A COMMITTEE
THEODORE DITTERENCE	Rated speed rpm : 2100
Dated aread and 4500	
Rated speed rpm : 1500	Overflow quantity
Del. quantity	+ ccm/10s : 88.8
cm3/1600 strokes : −0.2	† Tolerance
Tolerance	+ ccm/10s + : 27.7
cm3/1000 str. +-: 0.1	+
Shutoff solenoid	+ Check tolerance
Volt : 12	+ ccm/10s +: 41.6
, ,,	+ Shutoff solenoid
TIMING-DEVICE TRAVEL DIFFERENCE	1
ITHTIAG-DEATCE INVACT DILLEGISCE	† Volt : 12
Rated speed rpm : 1500	T poted aread area (00
the second secon	+ Rated speed rpm : 600
Del. quantity	+ Overflow quantity
cm3/1000 strokes : -1.2	+ ccm/10s : 63.8
Tolerance	+ Tolerance
cm3/1000 str. ←: 0.1	+ ccm/10s + : 16.6
Shutoff solenoid	+
Volt : 12	+ Check tolerance
	+ ccm/10s +: 22.2
	- Shutoff solenoid
INJECTION—PUMP TEST SPECIFICATIONS	+ Volt : 12
2110 2011011 1011 1201 01 2011101110110	. , , ,
TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
ITHING PEATOR CHANGE ENTOTIC	T PETTATIL MAD DISTURBANT CHARACTERISTIC
Rated speed rpm : 1790	Rated speed rpm : 2400
Nated speed (piii : 1770	
	+ Del. quantity
SV travel mm : 6.3	+ cm3/1000 strokes : 12.0
Tolerance mm + : 0.6	+ Tolerance
Check	+ cm3/1000 str. +-: 2.0
tolerance mm +-: 0.6	+ Check tolerance
Shutoff solenoid	+ cm3/1000s. $+$: 4.0
Volt : 12	+ Shutoff solenoid
7 76	+ Volt : 12
Rated speed rpm : 1100	1
nated speed ipin . From	Rated speed rpm : 2300
SV travel mm : 1.6	+ Del. quantity
SV 1 CMV(A) NWN " A	+ VEL. QUANTITY
Tolerance mm +-: 0.5	- cm3/1000 strokes : 22.0

Tolerance	+ Spread
cm3/1000 str. +-: 6.0	cm3/1000 strokes : 5.0
Check tolerance	
cm3/1000s. + : 6.0	FULL-LOAD STOP CONTROL LEVER
Shutoff solenoid	I DEE EOND DIGI CONTINGE EEVEN
	Dated and and 145
Volt : 12	Rated speed rpm : 415
	Del. quantity
Rated speed rpm : 2600	cm3/1000 strokes : 1.5
Del. quantity	+ Tolerance
cm3/1000 strokes : 3.0	+ cm3/1000 str. $+$: 1.5
Tolerance	Spread
cm3/1000 str. +-: 3.0	cm3/1000 strokes : 5.0
Check tolerance	Check tolerance
cm3/1000s. +-: 3.0	cm3/1000s. +-: 1.5
Shutoff solenoid	Spread
Volt : 12	cm3/1000 strokes : 5.0
VOCC . 12	t cm5/1000 strokes : 5.0
Detail aread area a 2400	†
Rated speed rpm : 2100	†
Del. quantity	†
cm3/1000 strokes : 31.0	†
Tolerance	•
cm3/1000 str. +: 1.1	
Check tolerance	+ CHECKING LOAD-DEPENDENT
cm3/1000s. +-: 1.1	START OF DELIVERY
Shutoff solenoid	
Volt : 12	- DELIVERY DIFFERENCE
Rated speed rpm : 600 -	Rated speed rpm : 1500
Del. quantity	Del. quantity
cm3/1000 strokes : 34.7	
Tolerance	Tolerance
cm3/1000 str. +-: 1.6	- cm3/1000 str. + : 3.0
Check tolerance -	- Check tolerance
cm3/1000s. + : 1.6	+ cm3/1000s. $+$: 4.0
Shutoff solenoid -	- Shutoff solenoid
Volt : 12 -	├ Volt : 12
Rated speed rpm : 1250 -	TIMING-DEVICE TRAVEL DIFFERENCE
Del. quantity -	
cm3/1000 strokes : 36.9	Rated speed rpm : 1500
Tolerance -	Del. quantity
cm3/1000 str. +-: 0.5	cm3/1000 strokes : -1.2
Check tolerance	Tolerance
	cm3/1000 str. +: 0.1
Shutoff solenoid -	Check tolerance
Volt : 12 -	+ cm3/1000s. + : 0.2
	Shutoff solenoid
•	† Volt : 12
	+
ELECTR. SHUTOFF	DELIVERY DIFFERENCE
CONTROL LEVER, IDLE STOP	
•	Rated speed rpm : 1500
Rated speed rpm : 415 -	Del. quantity
Del. quantity -	cm3/1000 strokes : 1.5
cm3/1000 strokes : 1.5	Tolerance
Tolerance -	cm3/1000 str. + : 1.5
cm3/1000 str. +: 1.5	Check tolerance
Check tolerance	cm3/1000s. +-: 1.5
cm3/1000s. +-: 1.5	Shutoff solenoid
- CHUT 10003	
•	f Volt : 12

PRESSURE DIFFERENCE

Rated speed rpm : 1500

Supply pomp

pressure bar : -1.0
Tolerance bar + : 0.2
Shutoff solenoid

Volt : 12

TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm : 1500
Tolerance mm + : 0.2
Check

tolerance mm +-: 0.6 Shutoff solenoid

Volt : 12

START TRANSITION

Rated speed rpm : 380 Del. quantity

cm3/1000 strokes : 42.0

Toterance

cm3/1000 str. + : 15.0

Shutoff solenoid

Volt : 12

Rated speed rpm : 180

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 str. + : 25.0

Shutoff solenoid

Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3
Tolerance mm + : 0,1
Dimension KF mm : 5,8
Tolerance mm + : 0,2
Dimension MS mm : 1,4
Tolerance mm + : 0,2

CONTROL LEVER POSITION

SET

Control Lever

position YA mm : 37,0..39,0

Control lever

position YB mm : 38,5..49,5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.04.97 Test oil : ISO 4113

: 3 281 729 Part no.

Pump designation: VE6/12F1100R296-1A

Customer-spec. information Customer : CDC

: 6 BTA-590 Motor

TEST BENCH REQUIREMENTS

Calibrating-oil return

temperature °C : 45

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 bar Tolerance bar +-:

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,85

Tolerance mm +: 0.02(0.06)

: D Outlet |

Prestroke

(as of UT) mm: 0,3 Tolerance mm +: 0,02

Check

tolerance mm +: 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

900 Rated speed rpm :

Aneroid pressure

1000

1.2 Setting mm Tolerance mm +: 0.2

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 900

Aneroid pressure

hPa 1000

Supply pomp

pressure bar 4.4 Tolerance bar +: 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

750 Rated speed rpm :

Aneroid pressure 1000 hPa

Del. quantity

cm3/1000 strokes : 92.0

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000S. 4.5

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 44.0

Tolerance

cm3/1000 str. + : 0.5

Shutoff solenoid

12 Volt

Check tolerance cm3/1000s. :	4.5	+ Rated speed rpm : 750 + Aneroid pressure
IDLE SETTING		hPa : 1000
		Fig. 1 SV travel mm : 0.5
Rated speed rpm : Del. quantity	375	Tolerance mm +-: 0.4 + Check
cm3/1000 strokes : Tolerance	18.0	tolerance mm + : 0.7 Shutoff solenoid
cm3/1000 str. +-: Shutoff solenoid	3.0	Volt : 12
Volt : Spread	12	SUPPLY PUMP PRESSURE CHARACTERISTIC
cm3/1000 strokes : Check tolerance	5.5	Rated speed rpm : 1100 Aneroid pressure
cm3/1000s. :	7.0	+ hPa : 1000 + Supply pomp
		pressure bar : 5.3
		Tolerance bar +: 0.3
		+ Shutoff solenoid
FULL-LOAD SPEED REGUL	ATION	+ Volt : 12
Rated speed rpm : Pressure hPa :	1160 1000	Rated speed rpm : 500 Aneroid pressure
Del. quantity		+ hPa : 1000
cm3/1000 strokes :	64.0	Supply pomp
Tolerance		pressure bar : 2.7
cm3/1000 str. +-:	3.0	+ Tolerance bar +-: 0.3
Shutoff solenoid		+ Shutoff solenoid
Volt :	12	+ Volt : 12
STARTING FUEL DELIVER	ΥY	+ OVERFLOW QUANTITY
Rated speed rpm :	100	Rated speed rpm : 1100
Del. quantity		+ Aneroid pressure
cm3/1000 strokes :	85.0	+ hPa : 1000
Tolerance cm3/1000 str. +-:	20.0	+ Overflow quantity + ccm/10s : 97.2
Shutoff solenoid	20.0	+ ccm/10s : 97.2 + Tolerance
Volt :	12	+ ccm/10s +- : 41.6
,	12	T CCIII/ 105
		- Check tolerance
		+ ccm/10s +-: 41.6
		+ Shutoff solenoid
TALLEGIZANI DUNG TEGT C	OFFICE PARTICULAR STATES	+ Volt : 12
INJECTION-PUMP TEST S	PECIFICATIONS	Dotad aroud ann a 500
TIMING DEVICE CHARACT	CDICTIC	+ Rated speed rpm : 500
ITHING DEVICE CHARACT	EKIZIIC	+ Overflow quantity + ccm/10s : 62.5
Rated speed rpm :	1100	Tolerance
Aneroid pressure	1100	- ccm/10s +-: 20.8
hPa :	1000	1 20.0
•		- Check tolerance
SV travel mm :	2.1	+ ccm/10s +: 20.8
Tolerance mm +-:	0.4	+ Shutoff solenoid
Check		+ Volt : 12
tolerance mm + : Shutoff solenoid	0.7	DELIVERY AND BREAKAWAY CHARACTERISTIC
Volt :	12	T DELIVERY MIND DREAKAWAY CHARACTERISTIC
vott :	12	Rated speed rpm : 1160

Aneroid pressure hPa :	1000	+ Del. quantity
Del. quantity		+ cm3/1000 strokes : 84.0 + Tolerance
cm3/1000 strokes : Tolerance	64.0	+ cm3/1000 str. +-: 1.5 + Check tolerance
cm3/1000 str. +-: Check tolerance	3.0	+ cm3/1000s. +-: 3.5 + Shutoff solenoid
cm3/1000s. +-: Shutoff solenoid	6.0	Volt : 12
Volt :	12	Rated speed rpm : 500
Rated speed rpm :	1180	+ Aneroid pressure + hPa : 1000
Aneroid pressure hPa :	1000	the Del. quantity to the cm3/1000 strokes : 98.0
Del. quantity cm3/1000 strokes :	35.0	Tolerance + cm3/1000 str. + : 4.0
Check tolerance cm3/1000s. +-:	20.0	Shutoff solenoid Volt : 12
Shutoff solenoid	12	+
Volt :		Rated speed rpm : 750 Aneroid pressure
Rated speed rpm : Aneroid pressure		+ hPa : 1000 + Del. quantity
hPa : Del. quantity	1000	+ cm3/1000 strokes : 92.0 + Tolerance
cm3/1000 strokes : Tolerance	1.5	
cm3/1000 str. + : Check tolerance	1.5	cm3/1000s. + : 3.0 Shutoff solenoid
cm3/1000s. +-:	1.5	+ Volt : 12
		ì
Shutoff solenoid Volt :	12	#
Volt : Rated speed rpm :		MECHANICAL SHUTOFF
Volt :		MECHANICAL SHUTOFF Rated speed rpm : 1100 Aneroid pressure
Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity	700 550	Rated speed rpm : 1100 Aneroid pressure hPa : 1000
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance	700 550 77.0	Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance	700 550 77.0 0.5	Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid	700 550 77.0 0.5 4.0	Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt :	700 550 77.0 0.5 4.0	Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid	700 550 77.0 0.5 4.0 12	Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Shutoff solenoid
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa :	700 550 77.0 0.5 4.0	Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Shutoff solenoid Volt : 12 ELECTR. SHUTOFF
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes :	700 550 77.0 0.5 4.0 12	Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Shutoff solenoid Volt : 12 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes :	700 550 77.0 0.5 4.0 12 1100 1000	Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Shutoff solenoid Volt : 12 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 375 Del. quantity
Rated speed rpm: Aneroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt: Rated speed rpm: Aneroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +:	700 550 77.0 0.5 4.0 12 1100 1000 76.5	Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Shutoff solenoid Volt : 12 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 1.5 Tolerance
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance	700 550 77.0 0.5 4.0 12 1100 1000 76.5 1.5	Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Shutoff solenoid Volt : 12 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance
Rated speed rpm: Aneroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt: Rated speed rpm: Aneroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid	700 550 77.0 0.5 4.0 12 1100 1000 76.5 1.5 3.0	Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Shutoff solenoid Volt : 12 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5

Rated speed rpm Del. quantity	:	500
cm3/1000 strokes	:	2.0
Tolerance cm3/1000 str. +-	:	2.0
Check tolerance cm3/1000s. +-		-
Shutoff solenoid	•	2.0
Volt	:	12

START TRANSITION

Rated speed rpm : 350
Del. quantity
cm3/1000 strokes : 50.0
Tolerance
cm3/1000 str. + : 20.0
Shutoff solenoid
Volt : 12

Rated speed rpm : 250

Del. quantity
cm3/1000 strokes : 90.0
Tolerance
cm3/1000 str. +: 25.0
Shutoff solenoid

Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,2
Tolerance mm + : 0,2
MS1 dimension mm : 1,5
Tolerance mm + : 0,1
SVS dimension mm : 3,0

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 45,8..51,3

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 16.04.97 Edition Test oil : ISO 4113 Part no. : 0 460 426 269 Pump designation: VE6/12F1100R373-9 Customer-spec. information Customer : CUMMINS Motor : 6 BT 5.9 L. TEST BENCH REQUIREMENTS Calibrating-oil return temperature "C 45 Tolerance °C +-: Overflow restriction mm 0.55 : Inlet press. bar : 0.35 Tolerance bar +-: 0.05 Test nozzle holde assembly **:** 1 688 901 027 Opening pressure bar 250 Tolerance bar +-: Test lines : 1 680 750 000 Outside diameter : 6.00 x inside diameter : 2.00 x length mm 840

REMARKS BEGINNING OF DELIVERY Plunger stroke mm: 1,85 Tolerance mm +: 0.02(0.06)Outlet : D

Prestroke

(as of UT) mm : 0,3 Tolerance mm +-: 0,02

Check

tolerance mm +-: 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 900

Aneroid pressure

hPa 1000

1.7 Setting mm Tolerance mm 0.2 Shutoff solenoid

Volt 24

SUPPLY PUMP PRESSURE

900 Rated speed rpm

Aneroid pressure

1000 hPa

Supply pomp

pressure bar 6.6 Tolerance bar + : 0.3

Shutoff solenoid

24 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 750

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 84.0

Tolerance

cm3/1000 str. +-:0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. Shutoff solenoid

24 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

600 Rated speed rpm :

Del. quantity

cm3/1000 strokes :

74.3

4.5

Tolerance

cm3/1000 str. + :0.5

Start of delivery blocking

Spread	+ Tolerance mm +-: 0.6
cm3/1000 strokes : 9.0	+ Check
Shutoff solenoid Volt : 24	tolerance mm +-: 0.7 Shutoff solenoid
Check tolerance	+ Volt : 24
cm3/1000S. : 9.0 Check tolerance	+ Rated speed rpm : 700
cm3/1000s. : 4.5	+ Aneroid pressure
IDLE SETTING	+ hPa : 1000
INCE SELLING	SV travel mm : 0.9
Rated speed rpm : 500	+ Tolerance mm + : 0.6
Del. quantity cm3/1000 strokes : 13.5	+ Check + tolerance mm + : 0.7
Tolerance	Shutorf solenoid
cm3/1000 str. + : 2.0 Shutoff solenoid	+ Volt : 24
Volt : 24	T SUPPLY PUMP PRESSURE CHARACTERISTIC
Spread	+
cm3/1000 strokes : 5.5 Check tolerance	+ Rated speed rom : 1100 + Aneroid pressure
cm3/1000S. : 7.0	+ hPa : 1000
	+ Supply pomp + pressure bar : 7.5
	+ pressure bar : 7.5 + Tolerance bar + : 0.3
SULL AND ORDER DESCRIPTION	Shutoff solenoid
FULL-LOAD SPEED REGULATION	+ Volt : 24
Rated speed rpm : 1180	Rated speed rpm : 700
Pressure hPa : 1000 Del. quantity	+ Aneroid pressure - hPa : 1000
cm3/1000 strokes : 77.0	+ Supply pomp
Tolerance	+ pressure bar : 5.7
cm3/1000 str. +-: 3.0 Shutoff solenoid	Tolerance bar + : 0.3 Shutoff solenoid
Volt : 24	+ Volt : 24
STARTING FUEL DELIVERY	+ OVERFLOW QUANTITY
	1
Rated speed rpm : 100 Del. quantity	+ Rated speed rpm : 600 + Overflow quantity
cm3/1000 strokes : 128.0	- ccm/10s : 69.4
Tolerance cm3/1000 str. +-: 30.0	+ Tolerance
cm3/1000 str. +-: 30.0 Shutoff solenoid	+ ccm/10s + : 16.6
Volt : 24	+ Check tolerance
	+ ccm/10s +-: 20.8 + Shutoff solenoid
	+ Volt : 24
	+ Rated speed rpm : 1150
INJECTION-PUMP TEST SPECIFICATIONS	Aneroid pressure
TIMING DEVICE CHARACTERISTIC	+ hPa : 1000 + Overflow quantity
ITHING DEATCE CHARACTERISIT	+ ccm/10s : 83.3
Rated speed rpm : 1100	+ Tolerance
Aneroid pressure hPa : 1000	+ cem/10s + : 27.7
	Check tolerance
SV travel mm : 2.6	+ ccm/10s + : 41.6

Shutoff solenoid Volt : 24	+ Shutoff solenoid + Volt : 24
DELIVERY AND BREAKAWAY CHARACTERISTIC	Rated speed rpm : 700 Aneroid pressure
Rated speed rpm : 1180 Aneroid pressure	hPa : 1000 Del. quantity
hPa : 1000 Del. quantity	cm3/1000 strokes : 85.0 Tolerance
cm3/1000 strokes : 77.0 Tolerance	cm3/1000 str. +: 1.5 Shutoff solenoid
cm3/1000 str. + : 3.0 Check tolerance	Volt : 24
cm3/1000s. +-: 6.0 Shurcoff soleroid	Rated speed rpm : 800 Aneroid pressure
Volt : 24	hPa : 1000 Del. quantity
Rated speed rpm : 1240 Aneroid pressure	+ cm3/1000 strokes : 84.0 + Tolerance
hPa : 1000 Del. quantity	cm3/1000 str. +: 1.5 Shutoff solenoid
cm3/1000 strokes : 20.0 Check tolerance	+ Volt : 24
cm3/1000s. + : 20.0 Shutoff solenoid	Rated speed rpm : 900 Aneroid pressure
Volt : 24	hPa : 1000 Del. quantity
Rated speed rpm : 1280 Aneroid pressure hPa : 1000	+ cm3/1000 strokes : 83.0 + Tolerance - cm3/1000 str. + : 1.5
Del. quantity cm3/1000 strokes : 1.5	Check tolerance cm3/1000s. + : 3.0
Tolerance cm3/1000 str. ←: 1.5	Shutoff solenoid Volt : 24
Check tolerance cm3/1000s. + : 1.5	Rated speed rpm : 600
Shutoff solenoid Volt : 24	Aneroid pressure hPa : 1000
Rated speed rpm : 600	+ Del. quantity + cm3/1000 strokes : 88.1
Aneroid pressure hPa : 400	Tolerance cm3/1000 str. +: 4.0
Del. quantity cm3/1000 strokes : 83.8 Tolerance	+ Shutoff solenoid + Volt : 24
cm3/1000 str. + : 0.5 Check tolerance	Rated speed rpm : 750 Aneroid pressure
cm3/1000s. \leftarrow : 4.5 Shutoff solenoid	hPa : 1000 Del. quantity
Volt : 24	cm3/1000 strokes : 84.0 Tolerance
Rated speed rpm : 1150 Aneroid pressure	- cm3/1000 str. + : 0.5 - Check tolerance
hPa : 1000 Del. quantity	cm3/1000s. +: 3.0 Shutoff solenoid
cm3/1000 strokes : 78.1 Tolerance	+ Volt : 24
cm3/1000 str. +-: 1.5 Check tolerance	MECHANICAL SHUTOFF
$cm3/1000s. \leftarrow : 3.0$	†

Rated speed rpm	: 1100	†
Aneroid pressure	4000	+ START TRANSITION
hPa	: 1000	†
Del. quantity	A 5	Rated speed rpm : 460
cm3/1000 strokes	: 1.5	+ Del. quantity
Tolerance	: 1.5	cm3/1000 strokes : 80.0
cm3/1000 str. +- Spread	; 1.5	+ Tolerance + cm3/1000 str. +-: 10.0
cm3/1000 strokes	: 5.0	+ cm3/1000 str. + : 10.0 + Shutoff solenoid
Check tolerance	, 5.0	+ Volt : 24
cm3/1000s. +-	: 1.5	1 1011
Spread		1
cm3/1000 strokes	: 5.0	Rated speed rpm : 320
Shutoff solenoid		+ Del. quantity
Volt	: 24	+ cm3/1000 strokes : 120.0
		† Tolerance
ELECTR. SHUTOFF	LE CTAR	+ Shutoff solenoid
CONTROL LEVER, ID	LE STOP	† Volt : 24
Rated speed rpm	: 375	
Del. quantity	•	ASSEMBLY AND ADJUSTMENT DIMENSIO
cm3/1000 strokes	: 1.5	+
Tolerance		+ Dimension KF mm : 5,2
cm3/1000 str. +-	: 1.5	+ Tolerance mm + : 0,2
Check tolerance		† Dimension MS mm : 1,2
cm3/1000s. +-	: 1.5	Tolerance mm +-: 0,2
Spread	: 5.0	†
cm3/1000 strokes	; 5.0	Ī
FULL-LOAD STOP CO	NTROL LEVER	+
Rated speed rpm	: 375	
Del. quantity	. 0,5	1
cm3/1000 strokes	: 1.5	+ End of test-specification sheet
Tolerance		+
cm3/1000 str. +	: 1.5	}
Spread		†
cm3/1000 strokes	: 5.0	†
Check tolerance	. 45	†
cm3/1000s. +-	: 1.5	Ť
Spread cm3/1000 strokes	: 5.0	Ī
WILL TOUG STRUKES	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1
IDLE DELIVERY		
		†
Rated speed rpm	: 590	†
Del. quantity	2.0	†
cm3/1000 strokes	: 2.0	†
Tolerance	. 20	†
cm3/1000 str. +- Check tolerance	: 2.0	I
cm3/1000s. +-	: 2.0	I
Shutoff solenoid	. 2.0	<u> </u>
Volt	: 24	
· • • •	. . ,	+

DIMENSIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.04.97 Test oil : ISO 4113

Part no. : 3 916 914

Pump designation: VE6/12F1400R387A

Customer—spec. information Customer : CDC

Motor : 6 BT-5.9 AUTO

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C +-: 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 027

Opening pressure

bar : 250 Tolerance bar + : 3

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00
x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,1

Tolerance mm + : 0.02(0.06)

Outlet : D

Prestroke

(as of UT) mm : 0.3Tolerance mm +-: 0.02

Check

tolerance mm + : 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 900

Aneroid pressure

hPa : 1000

Setting mm : 4.4
Tolerance mm + : 0.2
Shutoff solenoid

Volt : 24

SUPPLY PUMP PRESSURE

Rated speed rpm : 900

Aneroid pressure

hPa : 1000

Supply pomp

pressure bar : 4.4 Tolerance bar +: 0.3

Shutoff solenoid

Volt : 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 900

Aneroid pressure

hPa : 1000

Del. quantity cm3/1000 strokes : 67.5

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 4.5

Shutoff solenoid

Volt : 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 31.0

Tolerance

cm3/1000 str. + : 0.5

Shutoff solenoid Volt Check tolerance	: 24	Shutoff solenoid Volt : 24
cm3/1000s.	: 4.5	Rated speed rpm : 500 Aneroid pressure
IDLE SETTING		+ hPa : 1000
Rated speed rpm Del. quantity cm3/1000 strokes		+ SV travel mm : 0.8 + Tolerance mm + : 0.4 + Check
Tolerance cm3/1000 str. +-	: 3.0	tolerance mm +-: 0.7 Shutoff solenoid
Shutoff solenoid Volt	: 24	+ Volt : 24
Spread cm3/1000 strokes		SUPPLY PUMP PRESSURE CHARACTERISTIC
Check tolerance cm3/1000S.		Rated speed rpm : 1400
CM3710005.	: 7.0	Aneroid pressure hPa: 1000 Supply pomp
		pressure bar : 6.4 Tolerance bar +: 0.3
FULL-LOAD SPEED R		+ Shutoff solenoid + Volt : 24
Rated speed rpm Pressure hPa Del. quantity	: 1530 : 1000	Rated speed rpm : 600
cm3/1000 strokes Tolerance	: 52.0	Rated speed rpm : 500 Aneroid pressure
cm3/1000 str. +- Shutoff solenoid	: 3.0	hPa : 1000
Volt	: 24	Supply pomp pressure bar : 2.7
STARTING FUEL DEL	IVERY	+ Tolerance bar + : 0.3 + Shutoff solenoid
Rated speed rpm Del. quantity	: 100	+ Volt : 24 + OVERFLOW QUANTITY
cm3/1000 strokes	: 75.0	+
Tolerance cm3/1000 str. +- Shutoff solenoid	: 30.0	Rated speed rpm : 1400 Aneroid pressure hPa : 1000
Volt	: 24	Overflow quantity ccm/10s : 97.2
		Tolerance + : 41.6
		Check tolerance
INJECTION-PUMP TE	ST SPECIFICATIONS	ccm/10s +: 41.6 Shutoff solenoid
TIMING DEVICE CHA	RACTERISTIC	Volt : 24
Rated speed rpm Aneroid pressure	: 1100	Rated speed rpm : 500 Overflow quantity
hPa	: 1000	+ ccm/10s : 62.5 + Tolerance
SV travel mm Tolerance mm +-	: 5.9 : 0.4	ccm/10s +-: 20.8
Check tolerance mm +	: 0.7	Check tolerance ccm/10s +: 20.8

Shutoff solenoid Volt : 24	+ Check tolerance + cm3/1000s. + : 3.0
DELIVERY AND BREAKAWAY CHARACTERISTIC	+ Shutoff solenoid + Volt : 24
Rated speed rpm : 1530	Rated speed rpm : 1100
Aneroid pressure hPa : 1000	+ Aneroid pressure + hPa : 1000
Del. quantity cm3/1000 strokes : 52.0 Tolerance	Del. quantity cm3/1000 strokes : 66.0 Tolerance
cm3/1000 str. +: 3.0 Check tolerance	+ cm3/1000 str. +-: 1.5
cm3/1000s. +: 6.0 Shutoff solenoid	+ Check tolerance - cm3/1000s. + : 3.5
Volt : 24	+ Shutoff solenoid + Volt : 24
Rated speed rpm : 1700 Aneroid pressure	Rated speed rpm : 500 Aneroid pressure
hPa : 1000	+ hPa : 1000
Del. quantity cm3/1000 strokes : 1.5 Tolerance	+ Del. quantity - cm3/1000 strokes : 67.5 - Tolerance
cm3/1000 str. + : 1.5 Check tolerance	+ cm3/1000 str. + : 4.0 + Shutoff solenoid
cm3/1000s. +-: 1.5 Shutoff solenoid	Volt : 24
Volt : 24	Rated speed rpm : 900 Aneroid pressure
Rated speed rpm : 1620 Aneroid pressure	hPa : 1000 Del. quantity
hPa : 1000 Del. quantity	cm3/1000 strokes : 67.5
cm3/1000 strokes : 35.0 Tolerance	cm3/1000 str. +: 0.5
cm3/1000 str. +-: 20.0 Check tolerance	cm3/1000s. + : 3.0 Shutoff solenoid
cm3/1000s. + : 20.0 Shutoff solenoid	Volt : 24
Volt : 24	MECHANICAL SHUTOFF
Rated speed rpm : 700 Aneroid pressure	Rated speed rpm : 1400
hPa : 500 Del. quantity	Aneroid pressure hPa : 1000
cm3/1000 strokes : 59.5 Tolerance	Del. quantity cm3/1000 strokes : 1.5
cm3/1000 str. + : 0.5 Check tolerance	Tolerance
cm3/1000s. +-: 4.0 Shutoff solenoid	Check tolerance
Volt : 24	Shutoff solenoid Volt : 24
Rated speed rpm : 1400 Aneroid pressure	
hPa : 1000 Del. quantity	ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP
cm3/1000 strokes : 63.0 Tolerance	Rated speed rpm : 360
cm3/1000 str. +: 1.5	+

Del. quantity
cm3/1000 strokes : 1.5
Tolerance
cm3/1000 str. + : 1.5
Check tolerance
cm3/1000s. + : 1.5
Spread
cm3/1000 strokes : 5.0

IDLE DELIVERY

Rated speed rpm : 450
Del. quantity
cm3/1000 strokes : 2.0
Tolerance
cm3/1000 str. -: 2.0
Check tolerance
cm3/1000s. +: 2.0
Shutoff solenoid
Volt : 24

START TRANSITION

Rated speed rpm : 480
Del. quantity
cm3/1000 strokes : 35.0
Tolerance
cm3/1000 str. ÷ : 20.0
Shutoff solenoid
Volt : 24

Rated speed rpm : 300
Del. quantity
cm3/1000 strokes : 85.0
Tolerance
cm3/1000 str. + : 30.0
Shutoff solenoid
Volt : 24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,2
Tolerance mm +: 0,2
Dimension MS mm : 1,3
Tolerance mm +: 0,2
SVS dimension mm : 2,3

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 40,4..45,8

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.05.94 Test oil : ISO 4113

Part no. : 0 460 404 076 Pump designation : VE4/10F1350R418-2

Customer-spec. information Customer : MAN

Motor : D 0824 GF 03 Power KW : 75.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C + : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar +-: 0.05

Test nozzle holde

assembly : 1 688 901 109

Opening pressure

bar : 207
Tolerance bar + : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0,2 Tolerance mm +-: 0,02

Check

tolerance mm + : 0.04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000

Setting mm : 2.4
Tolerance mm + : 0.2
Shutoff solenoid
Volt : 24

SUPPLY PUMP PRESSURE

Rated speed rpm : 1000 Supply pomp pressure bar : 6.

pressure bar : 6.7
Tolerance bar + : 0.3
Shutoff solenoid

Volt : 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1000
Del. quantity
cm3/1000 strokes : 76.5
Tolerance
cm3/1000 str. + : 0.5
Spread
cm3/1000 strokes : 4.0
Shutoff solenoid
Volt : 24

IDLE SETTING

Rated speed rpm : 300
Del. quantity
cm3/1000 strokes : 10.0
Tolerance
cm3/1000 str. + : 3.0
Shutoff solenoid
Volt : 24
Spread
cm3/1000 strokes : 3.5
Check tolerance

cm3/1000s. : 3.5

FULL-LOAD SPEED REGULATION

Rated speed rpm : 1420

Del. quantity +	Shutoff solenoid
cm3/1000 strokes : 60.0 +	Volt : 24
Tolerance +	
cm3/1000 str. + : 2.0	Rated speed rpm : 600
Shutoff solenoid +	Supply pomp
Volt : 24 →	pressure bar : 4.7
+	Tolerance bar + : 0.3
+	Shutoff solenoid
SET GRADUATED STARTING DELIVERY	Volt : 24
CONTROL LEVER, IDLE STOP	
+	OVERFLOW QUANTITY
Rated speed rpm : 100	
Del. quantity	Rated speed rpm : 1350
cm3/1000 strokes : 65.0	Overflow quantity
Tolerance	ccm/10s : 97.2
cm3/1000 str. + : 1.0	Tolerance
Shutoff solenoid +	ccm/10s + : 27.7
Volt : 24 +	
+	Check tolerance
 	ccm/10s + : 41.6
+	Shutoff solenoid
+	Volt : 24
INJECTION-PUMP TEST SPECIFICATIONS +	
+	Rated speed rpm : 600
TIMING DEVICE CHARACTERISTIC +	Overflow quantity
+	ccm/10s : 63.8
Rated speed rpm : 1200	Tolerance
+	ccin/10s + : 16.6
SV travel mm : 4.7	
Tolerance mm + : 0.4	Check tolerance
Check	ccm/10s +-: 22.2
tolerance mm +: 0.7	Shutoff solenoid
Shutoff solenoid +	Volt : 24
Volt : 24	
+	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm : 900	
+	Rated speed rpm : 1420
SV travel mm : 1.4	Del. quantity
Tolerance mm + : 0.4	cm3/1000 strokes : 60.0
Check	Tolerance
tolerance mm ←: 0.7	cm3/1000 str. +-: 2.0
Shutoff solenoid +	Check tolerance
Volt : 24 +	cm3/1000s. +-: 6.5
+	Shutoff solenoid
Rated speed rpm : 1350 +	Volt : 24
Rated speed rpm : 1350	
Rated speed rpm : 1350 SV travel mm : 6.4	
SV travel mm : 6.4 Tolerance mm +: 0.4	Volt : 24
SV travel mm : 6.4 Tolerance mm +: 0.4 Check	Volt : 24 Rated speed rpm : 1510
SV travel mm : 6.4 Tolerance mm +: 0.4 Check tolerance mm +: 0.4	Volt : 24 Rated speed rpm : 1510 Del. quantity cm3/1000 strokes : 7.5 Check tolerance
SV travel mm : 6.4 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid	Volt : 24 Rated speed rpm : 1510 Del. quantity cm3/1000 strokes : 7.5
SV travel mm : 6.4 Tolerance mm +: 0.4 Check tolerance mm +: 0.4	Volt : 24 Rated speed rpm : 1510 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. +: 7.5 Shutoff solenoid
SV travel mm : 6.4 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24	Volt : 24 Rated speed rpm : 1510 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. + : 7.5
SV travel mm : 6.4 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid	<pre>Volt : 24 Rated speed rpm : 1510 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. + : 7.5 Shutoff solenoid Volt : 24</pre>
SV travel mm : 6.4 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC	Rated speed rpm : 1510 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. + : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1550
SV travel mm : 6.4 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24	Rated speed rpm : 1510 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. + : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1550 Del. quantity
SV travel mm : 6.4 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1200 Supply pomp	Rated speed rpm : 1510 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. +-: 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1550 Del. quantity cm3/1000 strokes : 1.5
SV travel mm : 6.4 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1200 Supply pomp pressure bar : 7.7	Rated speed rpm : 1510 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. + : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1550 Del. quantity cm3/1000 strokes : 1.5 Tolerance
SV travel mm : 6.4 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1200 Supply pomp	Rated speed rpm : 1510 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. +-: 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1550 Del. quantity cm3/1000 strokes : 1.5
SV travel mm : 6.4 Tolerance mm +: 0.4 Check tolerance mm +: 0.4 Shutoff solenoid Volt : 24 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1200 Supply pomp pressure bar : 7.7	Rated speed rpm : 1510 Del. quantity cm3/1000 strokes : 7.5 Check tolerance cm3/1000s. + : 7.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1550 Del. quantity cm3/1000 strokes : 1.5 Tolerance

Check tolerance		+ Del. quantity
cm3/1000s. +:	1.5	+ cm3/1000 strokes : 1.5
Shutoff solenoid		+ Tolerance
Volt :	24	+ cm3/1000 str. +-: 1.5
		+ Spread
Rated speed rpm :	1460	+ cm3/1000 strokes : 5.0
Del. quantity		+ Check tolerance
cm3/1000 strokes :	30.0	+ cm3/1000s. +-: 1.5
Tolerance		+ Spread
cm3/1000 str. +-:	15.0	+ cm3/1000 strokes : 5.0
Check tolerance	45.0	+ Shutoff solenoid
cm3/1000s. +:	15.0	† Volt : 24
Shutoff solenoid Volt :	24	†
voce :	24	ELECTR. SHUTOFF
Rated speed rpm :	1350	CONTROL LEVER, IDLE STOP
Del. quantity	1330	I CONTROL LEVER, IDEE STOP
cm3/1000 strokes :	77.2	A Rated speed rpm : 300
Tolerance		Del. quantity
cm3/1000 str. +-:	1.5	+ cm3/1000 strokes : 1.5
Check tolerance		+ Tolerance
cm3/1000s. +-:	3.0	+ cm3/1000 str. +-: 1.5
Shutoff solenoid		+ Check tolerance
Volt :	24	+ cm3/1000s. +: 1.5
Ontrol opend one	200	+ Spread
Rated speed rpm :	800	cm3/1000 strokes : 5.0
Del. quantity cm3/1000 strokes :	79.0	FULL-LOAD STOP CONTROL LEVER
Tolerance	77.0	T FOLL EDAD STOP CONTROL ELVER
cm3/1000 str. + :	2.0	Rated speed rpm : 300
Check tolerance		Del. quantity
cm3/1000s. +-:	3.5	+ cm3/1000 strokes : 1.5
Shuroff solenoid		† Tolerance
Volt :	24	+ cm3/1000 str. +-: 1.5
Detect eneed one	600	+ Spread
Rated speed rpm : Del. quantity	600	cm3/1000 strokes : 5.0 Check tolerance
cm3/1000 strokes :	66.0	+ cm3/1000s. + : 1.5
Tolerance	30.0	+ Spread
cm3/1000 str. + :	3.0	+ cm3/1000 strokes : 5.0
Check tolerance		+
cm3/1000s. +-:	4.0	IDLE DELIVERY
Shutoff solenoid		+
Volt :	24	+ Rated speed rpm : 450
Debad amond and	1000	Del. quantity
Rated speed rpm :	1000	+ cm3/1000 strokes : 1.5
Del. quantity cm3/1000 strokes :	76.5	+ Tolerance + cm3/1000 str. +-: 1.5
Tolerance	, 0.5	Check tolerance
cm3/1000 str. + :	0.5	- cm3/1000s. +-: 1.5
Check tolerance		- Shutoff solenoid
cm3/1000s. +-:	2.5	+ Volt : 24
Shutoff solenoid		†
Volt :	24	†
MECHANICAL SHUTOFF		<u> </u>
HERITATURE SUCIOEL		T

START TRANSITION

Rated speed rpm : 1350

Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt	: : : :	450 55.0 15.0 24
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt	: :	350 85.0 20.0 24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,2
Tolerance mm + : 0,2
MS1 dimension mm : 1,15
Tolerance mm + : 0,15

End of test-specification sheet

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Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 03.05.94 Edition Test oil : ISO 4113

: 0 460 404 080 Part no. Pump designation: VE4/10F1350R418-3

Customer-spec, information Customer : MAN

Motor : D 0824 FL 01 : 75.0

Power KW

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance "C +:

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar +: 0.05

Test nozzle holde

: 1 688 901 109 assembly

Opening pressure

207 Tolerance bar +-:

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 840 x length mm :

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0,2 Tolerance mm +-: 0.02

Check

tolerance mm +-: 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000

Setting mm Tolerance mm +: 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm : 1000

Supply pomp

pressure bar 6.7 : Tolerance bar +-: 0.3

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 76.5

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 4.0

IDLE SETTING

Rated speed rpm : 300

Del. quantity

cm3/1000 strokes : 10.0

Tolerance

cm3/1000 str. + :3.0

Spread

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 3.5

FULL-LOAD SPEED REGULATION

Rated speed rpm : 1420

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 str. +-: 2.0

SET GRADUATED STARTING DELIVERY

CONTROL LEVER, IDLE STOP

Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 65.0 Tolerance	Tolerance + : 16.6 Check tolerance
cm3/1000 str. +-: 1.0	ccm/10s +-: 22.2
	DELIVERY AND BREAKAWAY CHARACTERISTIC
INJECTION-PUMP TEST SPECIFICATIONS	Rated speed rpm : 1420 Del. quantity
TIMING DEVICE CHARACTERISTIC	cm3/1000 strokes : 60.0
	+ cm3/1000 str. +: 2.0
, ,	Check tolerance cm3/1000S. +: 6.5
SV travel mm : 4.7 Tolerance mm +-: 0.4	Rated speed rpm : 1510
Check tolerance mm +-: 0.7	Del. quantity + cm3/1000 strokes : 7.5 + Check tolerance
Rated speed rpm : 900	cm3/1000s. +: 7.5
SV travel mm : 1.4 Tolerance mm + : 0.4	Rated speed rpm : 1550 Del. quantity
Check tolerance mm + : 0.7	cm3/1000 strokes : 1.5 Tolerance
Rated speed rpm : 1350	cm3/1000 str. +: 1.5 Check tolerance
SV travel mm : 6.4	cm3/1000s. +: 1.5
Tolerance mm +: 0.4 Check	Rated speed rpm : 1460 Del. quantity
tolerance mm +-: 0.4	- cm3/1000 strokes : 30.0 - Tolerance
SUPPLY PUMP PRESSURE CHARACTERISTIC	+ cm3/1000 str. + : 15.0
Rated speed rpm : 1200 Supply pomp	Check tolerance cm3/1000s. +: 15.0
pressure bar : 7.7 Tolerance bar + : 0.3	Rated speed rpm : 1350 Del. quantity
Rated speed rpm : 600	- cm3/1000 strokes : 77.2 - Tolerance
Supply pomp pressure bar : 4.7	+ cm3/1000 str. +: 1.5 - Check tolerance
Tolerance bar + : 0.3	cm3/1000s. +: 3.0
OVERFLOW QUANTITY	Rated speed rpm : 800 Del. quantity
Rated speed rpm : 1350 Overflow quantity	cm3/1000 strokes : 79.0 Tolerance
ccm/10s : 97.2 Tolerance	cm3/1000 str. +: 2.0 Check tolerance
ccm/10s + : 27.7	cm3/1000s. + : 3.5
Check tolerance ccm/10s + : 41.6	+ Rated speed rpm : 600 + Del. quantity
Rated speed rpm : 600	cm3/1000 strokes : 66.0 Tolerance
Overflow quantity ccm/10s : 63.8	cm3/1000 str. +: 3.0
COM/ 103 . 03.0	T .

Check tolerance cm3/1000s. +-:	4.0
Rated speed rpm :	1000
Del. quantity cm3/1000 strokes :	76.5
Tolerance cm3/1000 str. +- : Check tolerance	0.5
cm3/1000s. +-:	2.5
MECHANICAL SHUTOFF	
Rated speed rpm : Del. quantity	1350
cm3/1000 strokes : Tolerance	1.5
cm3/1000 str. +-: Spread	1.5
cm3/1000 strokes : Check tolerance	5.0
cm3/1000s. +-:	1.5
cm3/1000 strokes :	5.0
IDLE DELIVERY	
Rated speed rpm : Del. quantity	450
cm3/1000 strokes : Tolerance	1.5
cm3/1000 str. + : Check tolerance	1.5
cm3/1000s. +-:	1.5
START TRANSITION	
Rated speed rpm : Del. quantity	450
cm3/1000 strokes : Tolerance	55.0
cm3/1000 str. +:	15.0
Rated speed rpm :	350
Del. quantity cm3/1000 strokes :	85.0
Tolerance	20.0

Dimension KF mm : 5,2
Tolerance mm + : 0,02
MS1 dimension mm : 1,15
Tolerance mm + : 0,15

CONTROL LEVER POSITION

SEI

Control lever

position YA mm : 37,4..40,4

Control Lever

position YB mm : 39,6..44,6

End of test-specification sheet

20.0

cm3/1000 str. +-:

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.04.97 Test oil : ISO 4113

: 3 281 950 Part no.

Pump designation: VE6/12F1250R498-1A

Customer-spec. information Customer : CDC

Motor : 6 BTAA 5.9B

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.55

C.35 Inlet press. bar : Tolerance bar + : 0.05

Test nozzle holde

: 1 688 901 109 assembly

Opening pressure

bar 207 Tolerance bar + :

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,15

Tolerance mm +: 0.02(0.06)

Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1000

Aneroid pressure

hPa 1000

Setting mm 1.7 Tolerance mm 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm 1000

Aneroid pressure

: 1000

Supply pomp

pressure bar 6.6 Tolerance bar ← : 0.3

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 850

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 72.0

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000S.5.0

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 str. + :0.5

Spread cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s.

6.0

Check tolerance

cm3/1000s. 5.0

IDLE SETTING

Rated speed rpm 350 :

Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 str. +-:2.0

Spread			+ Tolerance mm +-: 0.4
cm3/1000 strokes	•	5,5	+ Check
Check tolerance	•	3,3	+ tolerance mm +-: 0.7
cm3/1000S.	•	7.0	toter arree man
(1100)	•	7.0	SUPPLY PUMP PRESSURE CHARACTERISTIC
			T SOUTH THE SOURCE CHARACTERISTIC
			Rated speed rpm : 1250
			Aneroid pressure
FULL-LOAD SPEED R	EGIII AT	TON	hPa : 1000
TOLL LOAD OF LED IN	COOLAI	7011	+ Supply pomp
Rated speed rpm	. 1	400	pressure bar : 7.5
Pressure hPa	• '	1000	Tolerance bar +-: 0.3
Del. quantity	•	1000	1 oceranice par += . U.5
cm3/1000 strokes		45.0	Rated speed rpm : 850
Tolerance	•	45.0	+ Rated speed rpm : 850 + Aneroid pressure
cm3/1000 str. +-		3.0	+ hPe : 1000
ChD/ 1000 Str. 1-	•	5.0	
STARTING FUEL DEL	TVEDY		Supply pomp pressure bar : 6.0
STARTING FUEL DEL	TACKI		+ pressure bar : 6.0 + Tolerance bar +- : 0.3
Poted speed son		100	Toterance bar +=: 0.5
Rated speed rpm	:	100	Dotad aread man . FOO
Del. quantity	_	son o	+ Rated speed rpm : 500
cm3/1000 strokes	:	80.0	Aneroid pressure
Tolerance	_	15.0	+ hPa : 1000
cm3/1000 str. +-	:	15.0	+ Supply pomp
			pressure bar : 4.2
			+ Tolerance bar +-: 0.3
			OUEDELOU OUANITATY
_			+ OVERFLOW QUANTITY
	~~ ~~~	クナデマクミママクいろ	
INJECTION-PUMP TE	ST SPE	CIFICATIONS	Rated speed rpm : 500
		-	+ Overflow quantity
TIMING DEVICE CHA		-	Overflow quantity : 63.8
TIMING DEVICE CHA	RACTER	ISTIC	Overflow quantity ccm/10s : 63.8 Tolerance
TIMING DEVICE CHA	RACTER	-	Overflow quantity : 63.8
TIMING DEVICE CHA Rated speed rpm Aneroid pressure	RACTER	1STIC 250	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2
TIMING DEVICE CHA	RACTER	ISTIC	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s +- : 22.2 Check tolerance
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa	RACTER	ISTIC 250 1000	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm	RACTER	ISTIC 250 1000 2.5	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +	RACTER	ISTIC 250 1000	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check	RACTER	1STIC 250 1000 2.5 0.4	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +	RACTER	ISTIC 250 1000 2.5	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +-	RACTER : 1 : :	1STIC 250 1000 2.5 0.4 0.7	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +-	RACTER : 1 : :	1STIC 250 1000 2.5 0.4	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Aneroid speed rpm Aneroid pressure	RACTER : 1 : :	1STIC 250 1000 2.5 0.4 0.7	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +-	RACTER : 1 : :	1STIC 250 1000 2.5 0.4 0.7	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Aneroid pressure hPa	RACTER : 1 : : :	1STIC 250 1000 2.5 0.4 0.7 500	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Aneroid speed rpm Aneroid pressure	RACTER : 1 : : :	1STIC 250 1000 2.5 0.4 0.7	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Aneroid pressure hPa Rated speed rpm Rated speed rpm	RACTER : 1 : : :	1STIC 250 1000 2.5 0.4 0.7 500 1000	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Aneroid pressure hPa Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm	RACTER : 1 : : :	1STIC 250 1000 2.5 0.4 0.7 500 1000 450 2.5	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Aneroid pressure hPa Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm +-	RACTER : 1 : : :	1STIC 250 1000 2.5 0.4 0.7 500 1000	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Aneroid pressure hPa Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm +- Check	RACTER : 1 : : :	1STIC 250 1000 2.5 0.4 0.7 500 1000 450 2.5 0.5	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6 DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Aneroid pressure hPa Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm +-	RACTER : 1 : : :	1STIC 250 1000 2.5 0.4 0.7 500 1000 450 2.5	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1400
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Aneroid pressure hPa Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm + Check tolerance mm + Check tolerance mm +	RACTER : 1 : : : :	1STIC 250 1000 2.5 0.4 0.7 500 1000 450 2.5 0.5	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1400 Aneroid pressure
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Aneroid pressure hPa Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm +- Check	RACTER : 1 : : :	1STIC 250 1000 2.5 0.4 0.7 500 1000 450 2.5 0.5	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s +: 22.2 Check tolerance ccm/10s +-: 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s +-: 41.6 Check tolerance ccm/10s +-: 41.6 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1400 Aneroid pressure hPa : 1000
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Aneroid pressure hPa Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm + Check tolerance mm + KSB/AFB Volt	RACTER : 1 : : : : :	1STIC 250 1000 2.5 0.4 0.7 500 1000 450 2.5 0.5 0.7	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s +: 22.2 Check tolerance ccm/10s +-: 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s +-: 41.6 Check tolerance ccm/10s +-: 41.6 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1400 Aneroid pressure hPa : 1000 Del. quantity
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Aneroid pressure hPa Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm + Check tolerance mm + KSB/AFB Volt Rated speed rpm	RACTER : 1 : : : : :	1STIC 250 1000 2.5 0.4 0.7 500 1000 450 2.5 0.5	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1400 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 45.0
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Aneroid pressure hPa Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check	RACTER : 1 : : : : : : : : : : : : : : : : : :	1STIC 250 1000 2.5 0.4 0.7 500 1000 450 2.5 0.5 0.7 24	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1400 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 45.0 Tolerance
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Aneroid pressure hPa Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm + Check tolerance mm + KSB/AFB Volt Rated speed rpm	RACTER : 1 : : : : :	1STIC 250 1000 2.5 0.4 0.7 500 1000 450 2.5 0.5 0.7	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1400 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 45.0 Tolerance cm3/1000 str. + : 3.0
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Aneroid pressure hPa Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check tolerance mm + Check	RACTER : 1 : : : : : : : : : : : : : : : : : :	1STIC 250 1000 2.5 0.4 0.7 500 1000 450 2.5 0.5 0.7 24	Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s + : 22.2 Check tolerance ccm/10s + : 22.2 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1400 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 45.0 Tolerance

		1 Dol guantitus
Rated speed rpm :	1445	Del. quantity cm3/1000 strokes : 72.0
Aneroid pressure hPa :	1000	+ Tolerance + cm3/1000 str. +-: 0.5
Del. quantity cm3/1000 strokes :	30.0	+ Check tolerance + cm3/1000s. +-: 3.0
Check tolerance cm3/1000s. +-:	15.0	
Rated speed rpm :	1490	MECHANICAL SHUTOFF
Aneroid pressure hPa :	1000	Rated speed rpm : 1250 Aneroid pressure
Del. quantity cm3/1000 strokes :	1.5	+ hPa : 1000 + Del. quantity
Tolerance cm3/1000 str. +:	1.5	cm3/1000 strokes : 1.5 Tolerance
Check tolerance cm3/1000s. +-:	1.5	cm3/1000 str. +: 1.5
		cm3/1000s. +: 1.5
Rated speed rpm : Aneroid pressure	600	‡
hPa : Del. quantity	450	IDLE DELIVERY
cm3/1000 strokes : Tolerance	68.5	Rated speed rpm : 400
cm3/1000 str. +-: Check tolerance	0.5	+ Del. quantity + cm3/1000 strokes : 1.5
cm3/1000s. +-:	4.0	+ Tolerance + cm3/1000 str. +: 1.5
Rated speed rpm : Aneroid pressure	1250	+ Check tolerance + cm3/1000s. + : 1.5
hPa : Del. quantity	1000	
cm3/1000 strokes : Tolerance	75.0	-
cm3/1000 str. + : Check tolerance	2.0	-
cm3/1000s. +-:	3.0	T START TRANSITION
Rated speed rpm :	1100	Rated speed rpm : 200
Aneroid pressure hPa :	1000	+ Del. quantity + cm3/1000 strokes : 65.0
Del. quantity cm3/1000 strokes :	74.0	+ Tolerance + cm3/1000 str. +-: 15.0
Tolerance cm3/1000 str. +-:	1.5	+
Check tolerance cm3/1000s. +-:	3.5	+ Rated speed rpm : 130 + Del. quantity
Rated speed rpm :	500	+ cm3/1000 strokes : 90.0 + Tolerance
Aneroid pressure hPa :	1000	- cm3/1000 str. +-: 20.0
Del. quantity cm3/1000 strokes :	82.0	ASSEMBLY AND ADJUSTMENT DIMENSIONS
Tolerance cm3/1000 str. +:	5.0	Dimension K mm : 3,7
Rated speed rpm :	850	Tolerance mm + : 0,1 Dimension KF mm : 6,4
Aneroid pressure	1000	Tolerance mm + : 0,2 MS1 dimension mm : 1,55
hPa :	1000	T instrumension mm : 1,33

Tolerance mm +: 0,15 SVS dimension mm : 3,1

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 44,2..49,8

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 23.04.97

Test oil

: ISO 4113

Part no.

: 3 281 949

Pump designation: VE6/12F1250R498-1B

Customer-spec. information

Customer

: CDC

Motor

: 6 BTAA 5.9B

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance *C +:

Overflow

restriction mm

0.55

Iniet press. bar :

0.35

Tolerance bar +-:

0.05

Test nozzle holde

assembly

: 1 688 901 109

Opening pressure

bar

207

Tolerance bar + :

Test lines

: 1 680 750 000

Outside diameter :

6.00

x inside diameter:

2.00

x length mm

840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,15

Tolerance mm +-:0,02(0,06)

Outlet

: D

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm

1000

Aneroid pressure

hPa

1000

Setting mm

1.7 0.2

Tolerance mm

SUPPLY PUMP PRESSURE

Rated speed rpm

1000

Aneroid pressure

1000

Supply pomp

pressure bar Tolerance bar + :

6.6 0.3

FULL-LOAD DELIVERY WITH BOOST PRESSURE

:

Rated speed rpm

850

Aneroid pressure hPa

1000

Del. quantity

cm3/1000 strokes : 72.0

Tolerance

cm3/1000 str. +-:0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s.

5.0

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm

Del. quantity

60.0

Tolerance

cm3/1000 strokes :

cm3/1000 str. + :

0.5

Spread

cm3/1000 strokes : Check tolerance

5.0

cm3/1000s.

6.0

Check tolerance

cm3/1000s. 5.0

IDLE SETTING

Rated speed rpm

350

Del. quantity

cm3/1000 strokes :

13.0

Tolerance

cm3/1000 str. +:

2.0

L16

Spread		† Tolerance mm + : 0.4
cm3/1000 strokes	: 5.5	+ Check
Check tolerance cm3/1000s.	: 7.0	tolerance mm +-: 0.7
(1107 10000)		SUPPLY PUMP PRESSURE CHARACTERISTIC
		Rated speed rpm : 1250
FULL-LOAD SPEED RE	CHI ATTON	+ Aneroid pressure + hPa : 1000
FULL-LUAD SPEED KE	GOLATION	+ hPa : 1000 + Supply pomp
Rated speed rpm	: 1400	+ pressure bar : 7.5
Pressure hPa	: 1000	+ Tolerance bar +-: 0.3
Del. Guentity		+
cm3/1000 strokes	: 45.0	Rated speed rpm : 850
Tolerance		Aneroid pressure
cm3/1000 str. +-	: 3.0	+ hPa : 1000
		+ Supply pomp
STARTING FUEL DELI	VERY	pressure bar : 6.0
	400	† Tolerance bar +-: 0.3
	: 100	†
Del. quantity	20.0	+ Rated speed rpm : 500
cm3/1000 strokes	: 80.0	+ Aneroid pressure
Tolerance cm3/1000 str. +-	. 15.0	+ hPa : 1000
cm3/1000 str. +-	: 15.0	Supply pomp
		+ pressure bar : 4.2 + Tolerance bar +-: 0.3
		T Toterance bar +=: 0.5
		OVERFLOW QUANTITY
THE CTTON DUMP TO	T CDECTET CATYONS	Total and an 500
INJECTION-PUMP TES	1 SPECIFICATIONS	+ Rated speed rpm : 500 + Overflow quantity
TIMING DEVICE CHAR	ACTERISTIC	+ ccm/10s : 63.8
		+ Tolerance
Rated speed rpm Aneroid pressure	: 1250	+ ccm/10s +-: 22.2
4	: 1000	Check tolerance
•	. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	+ ccm/10s +-: 22.2
SV travel mm	: 2. 5	+
Tolerance mm +-		Rated speed rpm : 1250
Check		+ Aneroid pressure
tolerance mm +-	: 0.7	† hPa : 1000
		+ Overflow quantity
	: 590	+ ccm/10s : 97.2
Aneroid pressure	. 4000	+ Tolerance
hPa	: 1000	+ ccm/10s + : 41.6
Rated speed rpm	: 450	+ Check tolerance
, , , , , ,		+ ccm/10s +-: 41.6
SV travel mm	: 2.5	+
Tolerance mm +-	: 0.5	+ DELIVERY AND BREAKAWAY CHARACTERISTIC
Check		+
tolerance mm +-	: 0.7	+ Rated speed rpm : 1400 + Aneroid pressure
KSB/AFB Volt	: 12	+ hPa : 1000
Dated cased and	: 850	+ Del. quantity + cm3/1000 strokes : 45.0
Rated speed rpm Aneroid pressure	: 850	+ cm3/1000 strokes : 45.0 + Tolerance
hPa	: 1000	+ cm3/1000 str. + : 3.0
TH G	. 1000	+ Check tolerance
SV travel mm	: 0.9	+ cm3/1000s. +: 6.0

	+	Del. quantity
Rated speed rpm :	1445	cm3/1000 strokes : 72.0
Aneroid pressure	}	Tolerance
hPa :	1000	cm3/1000 str. + : 0.5
Del. quantity	1	Check tolerance
cm3/1000 strokes :	30.0	cm3/1000s. +-: 3.0
Check tolerance	1	CIID7 10000
cm3/1000s. +:	15.0 I	
tm2/10003. +-:	7.0	MECHANICAL CHUTOEC
Dated aroud non	1490	MECHANICAL SHUTOFF
Rated speed rpm :	1470	D-4-04 4250
Aneroid pressure	1000	Rated speed rpm : 1250
hPa :	1000	Aneroid pressure
Del. quantity	†	hPa : 1000
cm3/1000 strokes :	1.5	Del. quantity
Tolerance	†	cm3/1000 strokes : 1.5
cm3/1000 str. +-:	1.5	Tolerance
Check tolerance	+	cm3/1000 str. + : 1.5
cm3/1000s. +-:	1.5	Check tolerance
	+	cm3/1000s. +-: 1.5
Rated speed rpm :	600	
Aneroid pressure	1	
hPa :	450	
Del. quantity	1	IDLE DELIVERY
cm3/1000 strokes :	68.5	
Tolerance	1	Rated speed rpm : 400
cm3/1000 str. +-:	0.5	Del. quantity
Check tolerance	1	cm3/1000 strokes : 1.5
cm3/1000s. +-:	4.0	Tolerance
· · ·	I	cm3/1000 str. + : 1.5
Rated speed rpm :	1250	Check tolerance
Aneroid pressure	T T	
· -	1000	cm3/1000s, +-: 1.5
	:000	
Del. quantity	75.0	
cm3/1000 strokes :	75.0	
Tolerance	1	
cm3/1000 str. +:	2.0	
Check tolerance	t	
cm3/1000s. ←:	3.0 +	START TRANSITION
	†	
Rated speed rpm :	1100 +	Rated speed rpm : 200
Aneroid pressure	+	Del. quantity
hPa :	1000	
Del. quantity	. 555	cm3/1000 strokes : 65.0
	+	Tolerance
cm3/1000 strokes :	74.0	
cm3/1000 strokes : Tolerance	74.0	Tolerance
cm3/1000 strokes :	+	Tolerance
cm3/1000 strokes : Tolerance	74.0	Tolerance
cm3/1000 strokes : Tolerance cm3/1000 str. ← :	74.0	Tolerance cm3/1000 str. +-: 15.0
cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance	74.0	Tolerance cm3/1000 str. + : 15.0 Rated speed rpm : 130
cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance	74.0	Tolerance cm3/1000 str. + : 15.0 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 90.0 Tolerance
cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +:	74.0	Tolerance cm3/1000 str. + : 15.0 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 90.0
cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Rated speed rpm:	74.0	Tolerance cm3/1000 str. + : 15.0 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 90.0 Tolerance
cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Rated speed rpm Aneroid pressure hPa :	74.0 1.5 3.5 500	Tolerance cm3/1000 str. + : 15.0 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 90.0 Tolerance
cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Rated speed rpm: Aneroid pressure hPa: Del. quantity	74.0 1.5 3.5 500	Tolerance cm3/1000 str. + : 15.0 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 str. + : 20.0
cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Rated speed rpm Aneroid pressure hPa :	74.0 1.5 3.5 500 1000	Tolerance cm3/1000 str. + : 15.0 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 90.0 Tolerance
cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Rated speed rpm: Aneroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance	74.0 1.5 3.5 500 1000 82.0	Tolerance cm3/1000 str. +: 15.0 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 str. +: 20.0 ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Rated speed rpm: Aneroid pressure hPa: Del. quantity cm3/1000 strokes:	74.0 1.5 3.5 500 1000	Tolerance cm3/1000 str. +: 15.0 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 str. +: 20.0 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,7
cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Rated speed rpm: Aneroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +:	74.0 1.5 3.5 500 1000 82.0 5.0	Tolerance cm3/1000 str. + : 15.0 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 str. + : 20.0 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,7 Tolerance mm + : 0,1
cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Rated speed rpm: Aneroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Rated speed rpm:	74.0 1.5 3.5 500 1000 82.0	Tolerance cm3/1000 str. + : 15.0 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 str. + : 20.0 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,7 Tolerance mm + : 0,1 Dimension KF mm : 6,4
cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Rated speed rpm: Aneroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +:	74.0 1.5 3.5 500 1000 82.0 5.0	Tolerance cm3/1000 str. + : 15.0 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 str. + : 20.0 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,7 Tolerance mm + : 0,1

Tolerance mm +-: 0,15 SVS dimension mm : 3,1

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 44,2..49,8

BOSCH INJ. PUMP TEST SPECIFICATION	BOSCH	TNJ.	PLIMP	TEST	SPECIFICATIONS
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Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.04.97 Test oil : ISO 4113

Part no. : 3 281 948

Pump designation : VE6/12F1250R498-1C

Customer-spec. information

: CDC Customer

: 6 BTAA 5.9B Motor

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 : Tolerance *C +-:

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

: 1 688 901 109 assembly

Opening pressure

bar 207 Tolerance bar +-:

: 1 680 750 000 Test lines

Outside diameter : 6.00

x inside diameter : 2.00

x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,15

Tolerance mm +: 0.02(0.06)

Outlet : D

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1000

Aneroid pressure

hPa 1000

Setting mm 1.7 Tolerance mm 0.2

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1000

Aneroid pressure

1000 hPa

Supply pomp

pressure bar 6.6 Tolerance bar + : 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 850

Aneroid pressure

1000 Del. quantity

cm3/1000 strokes : 72.0

Tolerance

cm3/1000 str. +-:0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s.5.0

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 str. + :0.5

Spread

5.0 cm3/1000 strokes :

Shutoff solenoid

Volt 12

Check tolerance

cm3/1000s. 6.0

Check tolerance

cm3/1000s. 5.0

				+	Aneroid pressure			
IDLE SETTING				1	hPa Shutoff solenoid	:	1000	
Rated speed rpm Del. quantity	:	350		1	Volt	:	12	
cm3/1000 strokes Tolerance	:	13.0		<u> </u>	Rated speed rpm	:	450	
cm3/1000 str. +- Shutoff solenoid	:	2.0		Ì	SV travel mm Tulerance mm +-	:	2.5 0.5	
Volt Spread	:	12		+	Check tolerance mm +-	•	0.7	
cm3/1000 strokes Check tolerance	:	5.5		Ŧ	Shutoff solenoid	•	12	
cm3/1000s.	:	7.0		Ŧ		•		
				†	KSB/AFB Volt	:	12	
	···			†	Rated speed rpm Aneroid pressure	:	850	
FULL-LOAD SPEED RI				‡	hPa	:	1000	
Reted speed rpm Pressure hPa	: 1	1400 1000		‡	SV travel mm Tolerance mm +	:	0.9 0.4	
Del. quantity cm3/1000 strokes	:	45.0		‡	Check tolerance mm +	:	0.7	
Tolerance cm3/1000 str. +-	:	3.0		‡	Shutoff solenoid Volt	:	12	
Shutoff solenoid Volt	:	12		† †	SUPPLY PUMP PRESS	URE	CHARACTERI	STIC
STARTING FUEL DEL	IVERY			‡	Rated speed rpm	:	1250	
Rated speed rpm		100		† † † †	Aneroid pressure hPa	:	1250 1000	
	:	100 80.0		† † †	Aneroid pressure hPa Supply pomp pressure bar	:		
Rated speed rpm Del. quantity	:			+ + + + + +	Aneroid pressure hPa Supply pomp	:	1000	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	80.0		+++++++++++++++++++++++++++++++++++++++	Aneroid pressure hPa Supply pomp pressure bar Tolerance bar	:	1 0 00	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Shutoff solenoid	:	80.0 15.0		+++++++++++++++++++++++++++++++++++++++	Aneroid pressure hPa Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt Rated speed rpm	:	1000 7.5 0.3 12	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Shutoff solenoid	:	80.0 15.0			Aneroid pressure hPa Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa	:	1000 7.5 0.3 12	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Shutoff solenoid Volt	: : :	80.0 15.0 12	ONIC	+++ ;+++++++++++++++++++++++++++++++++	Aneroid pressure hPa Supply pomp pressure bar Tolerance bar + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar	: : : : : : : : : : : : : : : : : : : :	1000 7.5 0.3 12 850 1000 6.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Shutoff solenoid Volt INJECTION-PUMP TES	: : :	80.0 15.0 12 ECIFICATI	ONS		Aneroid pressure hPa Supply pomp pressure bar Tolerance bar + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance bar + Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	1000 7.5 0.3 12 850 1000 6.0 0.3	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt INJECTION—PUMP TES TIMING DEVICE CHAR	: : : ST SPE	80.0 15.0 12 ECIFICATI	ONS		Aneroid pressure hPa Supply pomp pressure bar Tolerance bar + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance bar + Shutoff solenoid Volt	: : : : : : : : : : : : : : : : : : : :	1000 7.5 0.3 12 850 1000 6.0 0.3	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Shutoff solenoid Volt INJECTION—PUMP TES TIMING DEVICE CHAR Rated speed rpm Aneroid pressure	: : : ST SPE	80.0 15.0 12 ECIFICATI RISTIC	ONS		Aneroid pressure hPa Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure	: : : : : : : : : : : : : : : : : : : :	1000 7.5 0.3 12 850 1000 6.0 0.3 12	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Shutoff solenoid Volt INJECTION—PUMP TES TIMING DEVICE CHAR	: : : ST SPE	80.0 15.0 12 ECIFICATI	ONS		Aneroid pressure hPa Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt Rated speed rpm	: : : : : : : : : : : : : : : : : : : :	1000 7.5 0.3 12 850 1000 6.0 0.3	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Shutoff solenoid Volt INJECTION—PUMP TES TIMING DEVICE CHAR Rated speed rpm Aneroid pressure	: : : ST SPE RACTER : 1 :	80.0 15.0 12 ECIFICATI RISTIC	ONS		Aneroid pressure hPa Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa		1000 7.5 0.3 12 850 1000 6.0 0.3 12	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt INJECTION—PUMP TES TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm	: : : ST SPE RACTER : 1 :	80.0 15.0 12 ECIFICATI RISTIC 1250 1000 2.5	ONS		Aneroid pressure hPa Supply pomp pressure bar Tolerance bar + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance bar + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Supply pomp pressure bar		1000 7.5 0.3 12 850 1000 6.0 0.3 12 500 1000 4.2	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Shutoff solenoid Volt INJECTION-PUMP TES TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check	: : : : : : : : : :	80.0 15.0 12 ECIFICATI RISTIC 1250 1000 2.5 0.4	ONS		Aneroid pressure hPa Supply pomp pressure bar Tolerance bar + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance bar + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance bar + Shutoff solenoid Tolerance bar Tolerance bar Tolerance bar Tolerance bar Shutoff solenoid		1000 7.5 0.3 12 850 1000 6.0 0.3 12 500 1000 4.2 0.3	

500

Rated speed rpm :

Rated speed rpm

500

Overflow quantity ccm/10s :	63.8	Aneroid pressure hPa	:	450
Tolerance ccm/10s +-:	22.2	Del. quantity cm3/1000 strokes	: (68.5
Check tolerance	<u> </u>	Tolerance cm3/1000 str. +-		0.5
ccm/10s +: Shutoff solenoid	22.2	Check tolerance cm3/1000s. +-		4.0
Volt :	12	Shutoff solenoid	•	
	250	Volt	•	12
Aneroid pressure hPa :	1000	Rated speed rpm Aneroid pressure	: 125	50
Overflow quantity ccm/10s :	97.2	hPa Del. quantity	:	1000
Tolerance ccm/10s +-:	41.6	cm3/1000 strokes Tolerance	: 7	75.0
Check tolerance	41.0	cm3/1000 str. +-	:	2.0
ccm/10s + :	41.6	Check tolerance cm3/1000s. +	:	3.0
Shutoff solenoid Volt :	12	Shutoff solenoid Volt	:	12
DELIVERY AND BREAKAWAY	CHARACTERISTIC +		: 110	00
	1400 +	Aneroid pressure hPa	:	1000
Aneroid pressure hPa :	1000	Del. quantity cm3/1000 strokes	: 7	74.0
Del. quantity cm3/1000 strokes :	45.0	Tolerance cm3/1000 str. +-	•	1.5
Tolerance cm3/1000 str. ↔:	3.0	Check tolerance cm3/1000s. ←	:	3.5
Check tolerance cm3/1000S. +-:	6.0	Shutoff solenoid Volt	:	12
Shutoff solenoid Volt :	12	Rated speed rpm	: 50	00
	1445	Aneroid pressure		1000
Aneroid pressure	1000	Del. quantity		
Del. quantity	+	cm3/1000 strokes Tolerance		82.0
cm3/1000 strokes : Check tolerance	30.0	cm3/1000 str. +- Shutoff solenoid	•	5.0
cm3/1000S. +-: Shutoff solenoid	15.0	Volt	•	12
Volt :	12	Rated speed rpm Aneroid pressure	: 85	50
Rated speed rpm : 1 Aneroid pressure	490	hPa Del. quantity	: 1	1000
hPa : Del. quantity	1000	cm3/1000 strokes Tolerance	: 7	72.0
cm3/1000 strokes : Tolerance	1.5	cm3/1000 str. +- Check tolerance	•	0.5
cm3/1000 str. +-: Check tolerance	1.5	cm3/1000s. +- Shutoff solenoid	:	3.0
cm3/1000S. +-: Shutoff solenoid	1.5	Volt	:	12
Volt :	12	MECHANICAL SHUTOFF	-	
Rated speed rpm :	600 ‡	HECHANTEME SHOULF		

Rated speed rpm	:	1250	+	Shutoff soleno	id	
Aneroid pressure hPa		1000	1	Volt	:	12
Del. quantity	•	1000	Ţ			
cm3/1000 strokes Tolerance	:	1.5	1	ASSEMBLY AND A	JUSTMENT	DIMENSIONS
cm3/1000 str. +- Check tolerance	:	1.5	1	Dimension K mm Tolerance mm	: 3,7 +- : 0,1	
cm3/1000s. +- Shutoff solenoid	:	1.5	Ì	Dimension KF m Tolerance mm		
Volt	:	12	+	MS1 dimension r Tolerance mm SVS dimension r	nn : 1,5 +- : 0,1	5 5
ELECTR. SHUTOFF CONTROL LEVER, ID	LE	STOP	Ţ	SVS CIMERISTON	MIN . 371	
Rated speed rpm Del. quantity	:	350	Ī	CONTROL LEVER F	POSITION	
cm3/1000 strokes Tolerance	:	1.5	Ì	521		
cm3/1000 str. +- Check tolerance	:	1.5	1	Control lever position YA mm	• 34	838,8
cm3/1000s. +-	:	1.5	1	Control lever	. 54/	05070
cm3/1000 strokes	:	5.0	Ţ	position YB mm	: 44,	249,8
IDLE DELIVERY			‡	W		
Rated speed rpm Del. quantity	:	400	1	End of test-spe	ecificati	on sheet
cm3/1000 strokes Tolerance	:	1.5	+			
cm3/1000 str. +- Check tolerance	:	1.5	1			
cm3/1000s. +- Shutoff solenoid	:	1.5	+			
Volt	:	12	Ì			
			1			
			I			
START TRANSITION			Ŧ			
			Ŧ			
Rated speed rpm Del. quantity	:	200	‡			
cm3/1000 strokes Tolerance	:	65.0	1			
cm3/1000 str. +- Shutoff solenoid	:	15.0	ł			
Volt	:	12	Ŧ			
Rated speed rpm Del. quantity	:	130	‡			
cm3/1000 strokes Tolerance	:	90.0	1			
cm3/1000 str. +-	:	20.0	+			

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.04.97 Test oil : ISO 4113

Part no. : 3 282 109

Pump designation : VE6/12F1250R498-2C

Customer-spec. information Customer : CDC

Motor : 6 BTA 5.9B

TEST BENCH REQUIREMENTS

Calibrating-oil return

temperature °C : 45
Tolerance °C +-: 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar +-: 0.05

Test nozzie holde

assembly : 1 688 901 109

Opening pressure

bar : 207 Tolerance bar +- : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x Length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 1,2

Tolerance mm + : 0.02(0.06)

Outlet : D

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000

Aneroid pressure

hPa : 1000

Setting mm : 2.1 Tolerance mm +-: 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm : 1000

Aneroid pressure

h≥a : 1000

Supply pomp

pressure bar : 6.6 Tolerance bar + : 0.3

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 850

Aneroid pressure

hPa : 1000

Del. quantity

cm3/1000 strokes : 81.5

Tolerance

 $cm3/1000 str. \leftarrow : 0.5$

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 5.0

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rom : 500

Del. quantity

cm3/1000 strokes : 67.5

Tolerance

 $cm3/1000 str. \leftarrow : 0.5$

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s : 6.0

Check tolerance

cm3/1000s. : 5.0

IDLE SETTING

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 str. + : 2.0

Spread cm3/1000 strokes :	5.5	Tolerance mm +-: 0.4 Check
Check tolerance cm3/1000s.	7.0	tolerance mm + : 0.7
cm5/10005, ;	7.0	SUPPLY PUMP PRESSURE CHARACTERISTIC
	-	Rated speed rpm : 1250
FULL-LOAD SPEED REGULA	TION	Aneroid pressure hPa : 1000
Datad annual man	4750	Supply pomp
	1350	pressure bar : 7.5
Pressure hPa :	1000	Tolerance bar + : 0.3
Del. quantity		-
cm3/1000 strokes :	58.0	- Rated speed rpm : 850
Tolerance	4	Aneroid pressure
cm3/1000 str. +-:	3.0	hPa : 1000 Supply pomp
STARTING FUEL DELIVERY		
STARTING FUEL DELIVERT	7	pressure bar : 6.0
Rated speed rpm :	100	Tolerance bar + : 0.3
Del. quantity	4	Rated speed rpm : 500
cm3/1000 strokes :	80.0	- Aneroid pressure
Tolerance	4	h Pa : 1000
cm3/1000 str. +-:	15.0	Supply pomp
	.,,,,	pressure bar : 4.2
	Ţ	Tolerance bar +-: 0.3
	7	roterance bar +-: 0.3
	1	OVERFLOW QUANTITY
INJECTION-PUMP TEST SP	ECIFICATIONS	Rated speed rpm : 500 Overflow quantity
TIMING DEVICE CHARACTE	RISTIC	ccm/10s : 63.8 Tolerance
Dated annual sum	1250	
Rated speed rpm : Aneroid pressure	1250	- ccm/10s +-: 22.2
hPa :	1000	Check tolerance
·	1000	
6 14 Amm - 1	2.4	ccm/10s + : 22.2
SV travel mm :	2.6	
Tolerance mm + :	0.4	- Rated speed rpm : 1250
Check	4	- Aneroid pressure
tolerance mm + :	0.7	hPa : 1000
	1	Overflow quantity
Rated speed rpm :	500	- ccm/10s : 97.2
Aneroid pressure	1	Tolerance
1 ~	1000	
hPa :	1000	ccm/10s + : 41.6
	1	
Rated speed rpm :	450	Check tolerance
	+	- ccm/10s +-: 41.6
SV travel mm :	2.5	-
Tolerance mm + :	0.5	DELIVERY AND BREAKAWAY CHARACTERISTIC
Check		
tolerance mm + :	0.7	Rated speed rpm : 1350
100 / 150 U. 15	1	Aneroid pressure
KSB/AFB Volt :	24	hPa : 1000
	Ť	Del. quantity
Rated speed rpm :	850	- cm3/1000 strokes : 58.0
Aneroid pressure	4	Tolerance
hPa :	1000	- cm3/1000 str. +-: 3.0
,,, u]	Check tolerance
Cu tanual ma	1.0	
SV travel mm :	1.0 †	- cm3/1000s. +-: 6.0

### Aneroid pressure hPa			1	Dal guantitu	
APa : 1000 cm3/1000 str. +: 0.5 Del. quantity cm3/1000 strokes : 25.0 cm3/1000 stroke tolerance cm3/1000s. +: 3.0 Check tolerance cm3/1000s. +: 15.0 mechanical SHUTOFF Rated speed rpm : 1480 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Aneroid pressure hPa : 1000 bel. quantity cm3/1000 strokes : 1.5 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Check tolerance cm3/1000s. +: 1.5 Aneroid pressure hPa : 450 Del. quantity cm3/1000 str. +: 1.5 Pel. quantity cm3/1000 str. +: 0.5 Del. quantity cm3/1000 str. +: 1.5 Check tolerance cm3/1000 str. +: 0.5 Del. quantity cm3/1000 str. +: 1.5 Check tolerance cm3/1000 str. +: 2.0 Check tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000 str. +: 2.0 Check tolerance cm3/1000s. +: 1.5 Check tolerance cm3/1000s. +: 3.0 START TRANSITION Rated speed rpm : 1000 pel. quantity cm3/1000 strokes : 83.0 START TRANSITION Rated speed rpm : 1000 pel. quantity cm3/1000 strokes : 3.5 Rated speed rpm : 130 pel. quantity cm3/1000 strokes : 95.0 Tolerance cm3/1000 str. +: 1.5 Rated speed rpm : 130		: 1425	+		81.5
cm3/1000 strokes : 25.0 cm3/1000s. ← : 3.0 check tolerance cm3/1000s. ← : 15.0 meCHANICAL SHUTOFF Rated speed rpm : 1480 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Aneroid pressure hPa : 1000 bel. quantity cm3/1000 strokes : 1.5 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. ← : 1.5 Check tolerance cm3/1000s. ← : 1.5 Rated speed rpm : 600 Aneroid pressure hPa in 1000 strokes : 73.5 Tolerance cm3/1000 strokes : 73.5 Rated speed rpm : 410 cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 4.0 Tolerance cm3/1000 strokes : 1.5 Rated speed rpm : 1250 cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Aneroid pressure hPa in 1000 pel. quantity cm3/1000 strokes : 80.5 Tolerance cm3/1000s. ← : 1.5 Rated speed rpm : 1000 pel. quantity cm3/1000 strokes : 3.0 START TRANSITION Rated speed rpm : 1000 pel. quantity cm3/1000 strokes : 3.5 Rated speed rpm : 200 pel. quantity cm3/1000 strokes : 75.0 Tolerance cm3/1000 strokes : 3.5 Rated speed rpm : 130 pel. quantity cm3/1000 strokes : 95.0 Rated speed rpm : 500 Aneroid pressure hPa in 1000 pel. quantity cm3/1000 strokes : 95.0 Rated speed rpm : 500 Aneroid pressure h	hPa	: 1000	+	cm3/1000 str. + :	0.5
cm3/1000s. — : 15.0 Rated speed rpm : 1480 Aneroid pressure hPa : 1000 marroid pressure hPa : 1000 mall results : 1000 pel. quantity : 1000 cm3/1000 strokes : 1.5 : 1.5 Tolerance cm3/1000 str. : 1.5 cm3/1000 str. : 1.5 Rated speed rpm : 600 Aneroid pressure hPa : 450 bel. quantity cm3/1000 str. mall results : 450 bel. quantity rated speed rpm cm3/1000 strokes : 73.5 rated speed rpm Tolerance cm3/1000 str. : 0.5 cm3/1000 strokes : 1.5 rated speed rpm : 410 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 bel. quantity cm3/1000 str. cm3/1000 str. : 1.5 rolerance cm3/1000 str. : 1.5 cm3/1000 str. : 2.0 crick tolerance cm3/1000 str. : 3.0 cm3/1000 str. : 2.0 crick tolerance cm3/1000 str. : 3.0 cm3/1000 strokes : 3.0 st	cm3/1000 strokes	: 25.0			3.0
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Aperoid pressure Aperoid pre		: 1480	+		4350
cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. ← : 1.5 cm3/1000 str. ← : 1.5 Check tolerance cm3/1000 str. ← : 1.5 cm3/1000 str. ← : 1.5 Rated speed rpm cm3/1000 strokes : 450 Del. quantity cm3/1000 strokes : 73.5 Tolerance cm3/1000 strokes : 73.5 Rated speed rpm : 4.0 Rated speed rpm : 4.0 Rated speed rpm : 4.0 Rated speed rpm : 1.5 Check tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 80.5 Tolerance cm3/1000 strokes : 80.5 Tolerance cm3/1000 strokes : 80.5 Tolerance cm3/1000 strokes : 80.5 Tolerance cm3/1000 strokes : 80.5 Tolerance cm3/1000 strokes : 80.5 Tolerance cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : 83.5 Tolerance cm3/1000 strokes : 83.5 Tolerance cm3/1000 strokes : 83.0	hPa	: 1000	+	Aneroid pressure	
cm3/1000 str. + : 1.5 1.5 Tolerance cm3/1000 str. + : 1.5 1.5 Check tolerance cm3/1000 str. + : 1.5 1.5 Check tolerance cm3/1000s. + : 1.5 1.5 Check tolerance cm3/1000s. + : 1.5 Check tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000 str. 1.5 Check tolerance cm3/1000 str. 1.5 Check tolerance cm3/1000 str. 1.5 Check tolerance cm3/1000 str. 1.5 Check tolerance cm3/1000 str. 1.5 Check tolerance cm3/1000 str. 1.5 Check tolerance cm3/1000 str. 1.5 Check tolerance cm3/1000s. 1.5 Check tolerance cm3/1000s. 1.5 Check tolerance cm3/1000s. 1.5 Check tolerance cm3/1000s. 1.5 Check tolerance cm3/1000s. 1.5 Check tolerance cm3/1000s. 1.5 Check tolerance cm3/1000s. 1.5 Check tolerance cm3/1000s. 1.5 Check tolerance cm3/1000 strokes cm3/1000 str	cm3/1000 strokes	: 1.5	+	Del. quantity	-
cm3/10008. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Rated speed rpm : 600 600 - : 1.5 Aneroid pressure hPa : 450 - : 450 - : 1.5 Del. quantity cm3/1000 strokes : 73.5 - : 0.5	cm3/1000 str. +-	: 1.5	+	Tolerance	
Rated speed rpm : 600 Aneroid pressure hPa : 450 Del. quantity cm3/1000 strokes : 73.5 Tolerance cm3/1000 str. +: 0.5 Rated speed rpm : 4.0 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 80.5 Tolerance cm3/1000 strokes : 80.5 Tolerance cm3/1000 str. +: 2.0 Check tolerance cm3/1000 strokes : 3.0 Rated speed rpm : 1100 Rated speed rpm : 1100 Rated speed rpm : 1100 Rated speed rpm : 1100 Rated speed rpm : 1500 Aneroid pressure hPa : 1000 Aneroid pressure cm3/1000 strokes : 3.0 Rated speed rpm : 1100 Rated speed rpm : 1000 Aneroid pressure hPa : 1000 Aneroid pressure cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : 3.5 Rated speed rpm : 15.0 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 95.0 Tolerance cm3/1000 strokes : 95.0 Tolerance cm3/1000 strokes : 95.0 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 95.0 Tolerance cm3/1000 strokes : 95.0 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 95.0 Tolerance cm3/1000 strokes : 95.0 Tolerance cm3/1000 strokes : 95.0 ASSEMBLY AND ADJUSTMENT DIMENSIONS		: 1.5			1.5
Aneroid pressure hPa : 450 Del. quantity cm3/1000 strokes : 73.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 4.0 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 80.5 Tolerance cm3/1000 strokes : 80.5 Tolerance cm3/1000 strokes : 80.5 Tolerance cm3/1000 strokes : 3.0 Rated speed rpm : 1100 Patenance cm3/1000s. + : 2.0 Check tolerance cm3/1000s. + : 3.0 Rated speed rpm : 200 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : 3.5 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 95.0 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 95.0 Tolerance cm3/1000 strokes : 95.0 ASSEMBLY AND ADJUSTMENT DIMENSIONS Tolerance	Rated speed rpm	: 600	‡	cm3/1000s. +-:	1.5
Del. quantity cm3/1000 strokes : 73.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 4.0 Rated speed rpm : 410 Del. quantity cm3/1000 str. + : 1.5 Rated speed rpm : 1250 Rated speed rpm : 1.5 Rated speed rpm : 1.5 Rated speed rpm : 1.5 Rated speed rpm : 1.5 Rated speed rpm : 1.5 Rated speed rpm : 1.5 Rated speed rpm : 1.5 Rated speed rpm : 1.5 Rated speed rpm : 1.5 Rated speed rpm : 200 Del. quantity cm3/1000 str. + : 2.0 Check tolerance cm3/1000s. + : 3.0 Rated speed rpm : 200 Del. quantity hPa : 1000 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : 83.0 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000 strokes : 75.0 Del. quantity cm3/1000 str. + : 15.0 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000 str. + : 1.5 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 95.0 Rated speed rpm : 20.0 Rated speed rpm : 130 Del. quantity cm3/1000 str. + : 1.5 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 95.0 Rated speed rpm : 20.0 ASSEMBLY AND ADJUSTMENT DIMENSIONS Tolerance	Aneroid pressure	: 450	†		
Tolerance cm3/1000 str. +: 0.5	Del. quantity		<u>†</u>	IDLE DELIVERY	
Check tolerance cm3/1000s.	Tolerance				410
Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 str. +: 2.0 Cireck tolerance cm3/1000str. +: 2.0 Cireck tolerance cm3/1000str. +: 2.0 Cireck tolerance cm3/1000str. +: 2.0 Cireck tolerance cm3/1000str. +: 3.0 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000str. +: 1.5 Check tolerance cm3/1000str. +: 1.5 Check tolerance cm3/1000str. +: 1.5 Check tolerance cm3/1000str. +: 1.5 Check tolerance cm3/1000str. +: 1.5 Check tolerance cm3/1000str. +: 20.0 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 95.0 Tolerance cm3/1000 str. +: 20.0 ASSEMBLY AND ADJUSTMENT DIMENSIONS Tolerance	Check tolerance		+	cm3/1000 strokes :	1.5
Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 80.5 Tolerance cm3/1000s. +: 2.0 Crieck tolerance cm3/1000s. +: 3.0 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : 83.0 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 3.5 Rated speed rpm : 500 Aneroid pressure hPa : 1.5 Rated speed rpm : 130 Del. quantity cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 3.5 Rated speed rpm : 500 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 95.0 Tolerance cm3/1000 strokes : 95.0 ASSEMBLY AND ADJUSTMENT DIMENSIONS			+	cm3/1000 str. + :	1.5
Del. quantity cm3/1000 strokes : 80.5 Tolerance cm3/1000 str. + : 2.0 Cireck tolerance cm3/1000s. + : 3.0 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 3.5 Rated speed rpm : 500 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 str. + : 20.0 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 95.0 Tolerance cm3/1000 strokes : 95.0 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 95.0 Tolerance cm3/1000 strokes : 95.0 ASSEMBLY AND ADJUSTMENT DIMENSIONS Tolerance	Aneroid pressure				1.5
Tolerance cm3/1000 str. + : 2.0 Crieck tolerance cm3/1000s. + : 3.0 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 3.5 Rated speed rpm : 500 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 95.0 Rated speed rpm : 500 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 95.0 Tolerance cm3/1000 strokes : 95.0 Assembly AND ADJUSTMENT DIMENSIONS Tolerance	Del. quantity		‡		
Cireck tolerance 3.0 START TRANSITION Rated speed rpm : 1100 Rated speed rpm : 200 Aneroid pressure Del. quantity cm3/1000 strokes : 75.0 Del. quantity Tolerance cm3/1000 strokes : 15.0 Tolerance cm3/1000 str. + : 1.5 Rated speed rpm : 130 Check tolerance Rated speed rpm : 130 Del. quantity cm3/1000s. + : 3.5 Tolerance cm3/1000 strokes : 95.0 Rated speed rpm : 500 Tolerance cm3/1000 strokes : 95.0 Aneroid pressure Aneroid pressure cm3/1000 strokes : 95.0 Apple : 1000 ASSEMBLY AND ADJUSTMENT DIMENSIONS Tolerance Tolerance		: 80. 5	‡		
Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 3.5 Rated speed rpm : 130 Del. quantity cm3/1000s. +: 3.5 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 95.0 Rated speed rpm : 500 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 95.0 ASSEMBLY AND ADJUSTMENT DIMENSIONS Tolerance		: 2.0	†		
Aneroid pressure hPa : 1000	cm3/1000s. +-	: 3.0	1	START TRANSITION	
hPa : 1000 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 3.5 Rated speed rpm : 500 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 str. +: 20.0 Assembly AND ADJUSTMENT DIMENSIONS Tolerance		: 1100			200
cm3/1000 strokes : 83.0 cm3/1000 str. + : 15.0 Tolerance cm3/1000 str. + : 1.5 Rated speed rpm : 130 cm3/1000s. + : 3.5 Del. quantity cm3/1000 strokes : 95.0 Rated speed rpm : 500 Tolerance cm3/1000 strokes : 95.0 Aneroid pressure hPa : 1000 Cm3/1000 str. + : 20.0 Del. quantity cm3/1000 strokes : 95.0 ASSEMBLY AND ADJUSTMENT DIMENSIONS Tolerance ASSEMBLY AND ADJUSTMENT DIMENSIONS	hPa	: 1000	}	cm3/1000 strokes :	75.0
cm3/1000 str. \leftarrow : 1.5 Check tolerance cm3/1000s. \leftarrow : 3.5 Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 95.0 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 95.0 ASSEMBLY AND ADJUSTMENT DIMENSIONS Tolerance	cm3/1000 strokes	: 83.0			15.0
cm3/1000s. + : 3.5 Rated speed rpm : 500 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 95.0 ASSEMBLY AND ADJUSTMENT DIMENSIONS Tolerance	cm3/1000 str. +-	: 1.5	ŧ	Pated speed rom .	130
Rated speed rpm : 500 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 95.0 Tolerance ASSEMBLY AND ADJUSTMENT DIMENSIONS Tolerance		: 3.5	+	Del. quantity	
hPa : 1000 Del. quantity cm3/1000 strokes : 95.0 Tolerance + ASSEMBLY AND ADJUSTMENT DIMENSIONS		: 500	+	Tolerance	
cm3/1000 strokes : 95.0 + ASSEMBLY AND ADJUSTMENT DIMENSIONS Tolerance +	hPa	: 1000	Ŧ	CIID/ 1000 SCI . T-:	20.0
	cm3/1000 strokes	: 95.0	Ŧ :	ASSEMBLY AND ADJUSTM	MENT DIMENSIONS
		: 5.0	•		•
Rated speed rpm : 850 + Dimension KF mm : 6,4		: 850	+	Dimension KF mm :	6,4
Aneroid pressure + Tolerance mm + : 0,2 hPa : 1000 + MS1 dimension mm : 1,35		: 1000			

Tolerance mm + : 0,15 SVS dimension mm : 2,6

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 34,8..38,8

Control lever

: 43,3..49,9 position YB mm

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.04.97 : ISO 4113 Test oil

Part no. : 3 282 002

Pump designation : VE6/12F1250R498-2D

Customer-spec, information Customer : CDC

: 6 BTA 5.9B Motor

TEST BENCH REQUIREMENTS

Calibrating oil

return

temperature *C Tolerance *C +:

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 0.05 Tolerance bar +-:

Test nozzle holde

: 1 688 901 109 assembly

Opening pressure

207 bar Tolerance bar + :

: 1 680 750 000 Test lines

Outside diameter : 6.00

2.00 x inside diameter : 840 x Length mm

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,2

Tolerance mm + : 0.02(0.06)

Outlet : D

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

1000 Rated speed rpm

Aneroid pressure

1000 hPa

2.1 Setting mm 0.2 Tolerance mm

SUPPLY PUMP PRESSURE

1000 Rated speed rpm Aneroid pressure

1000 hPa

Supply pomp

pressure bar 6.6 0.3 Tolerance bar +-:

FULL-LOAD DELIVERY WITH BOOST PRESSURE

850 Rated speed rpm •

Aneroid pressure

hPa 1000 Del. quantity

cm3/1000 strokes : 81.5

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

5.0 cm3/1000s.

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 67.5

Tolerance

0.5 cm3/1000 str. +-:

Spread

5.0 cm3/1000 strokes :

Check tolerance

cm3/1000s.6.0

Check tolerance

cm3/1000s. 5.0

IDLE SETTING

350 Rated speed rpm

Del. quantity

13.0 cm3/1000 strokes :

Tolerance

cm3/1000 str. + :2.0

Spread		+ Tolerance mm ++: 0.	4
cm3/1000 strokes	5.5		·r
Check tolerance		tolerance mm +-: 0.	7
cm3/1000s.	; 7.0		•
C.857 10000.	• • • • • • • • • • • • • • • • • • • •	SUPPLY PUMP PRESSURE CHARAC	TEDICTIC
		T SUFFET FORF FRESSURE CHARAC	IEKTOITC
		T Botad around nam . 1250	
		Rated speed rpm : 1250	
FIRE LOAD SPEED D	COLL ATTOM	+ Aneroid pressure	0
FULL-LOAD SPEED R	EGOLATION	+ hPa : 100	U
Dahad amand man	. 4750	Supply pomp	_
Rated speed rpm	: 1350	pressure bar : 7.	
Pressure hPa	: 1000	Tolerance bar + : 0.	3
Del. quantity	50.0		
cm3/1000 strokes	: 58.0		
Tolerance		+ Aneroid pressure	_
cm3/1000 str. +	: 3.0	- ()	0
		+ Supply pomp	
STARTING FUEL DEL	IVERY	+ pressure bar : 6.	
		+ Tolerance bar + : 0.	3
Rated speed rpm	: 100	+	
Del. quantity		+ Rated speed rpm : 500	
cm3/1000 strokes	: 80.0	D + Aneroid pressure	
Tolerance		+ hPa : 100	0
cm3/1000 str. +-	: 15.0	Supply pomp	
		+ pressure bar : 4.	2
		+ Tolerance bar + : 0.	
		+	
		+ OVERFLOW QUANTITY	
INJECTION-PUMP TE	ST SPECIFIC		
		+ Overflow quantity	
TIMING DEVICE CHA	RACTERISTIC		0
			0
		+ Tolerance	0
Roted speed rpm	: 1250	Tolerance ccm/10s +: 22.	
Rated speed rpm Aneroid pressure			
		- ccm/10s + : 22.	
Aneroid pressure	: 1250	- ccm/10s +: 22.	2
Aneroid pressure	: 1250 : 1000 : 2.6	ccm/10s + : 22. Check tolerance ccm/10s + : 22.	2
Aneroid pressure hPa	: 1250 : 1000	ccm/10s + : 22. Check tolerance ccm/10s + : 22.	2
Aneroid pressure hPa SV travel mm	: 1250 : 1000 : 2.6	ccm/10s +: 22. Check tolerance ccm/10s +: 22.	2
Aneroid pressure hPa SV travel mm Tolerance mm +	: 1250 : 1000 : 2.6	Check tolerance ccm/10s +: 22. Check tolerance ccm/10s +: 22. Rated speed rpm : 1250 Aneroid pressure	2
Aneroid pressure hPa SV travel mm Tolerance mm + Check	: 1250 : 1000 : 2.6 : 0.4	Check tolerance Check tolerance Ccm/10s + : 22.5	2
Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +-	: 1250 : 1000 : 2.6 : 0.4	Check tolerance ccm/10s +: 22. Check tolerance ccm/10s +: 22. Rated speed rpm : 1250 Aneroid pressure	2
Aneroid pressure hPa SV travel mm Tolerance mm + Check	: 1250 : 1000 : 2.6 : 0.4 : 0.7	Check tolerance ccm/10s + : 22. Check tolerance ccm/10s + : 22. Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.	2
Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Rated speed rpm	: 1250 : 1000 : 2.6 : 0.4 : 0.7	Check tolerance ccm/10s +: 22. Check tolerance ccm/10s +: 22. Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97. Tolerance	2 2 0 2
Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure	: 1250 : 1000 : 2.6 : 0.4 : 0.7 : 500	Check tolerance ccm/10s +: 22. Check tolerance ccm/10s +: 22. Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97. Tolerance	2 2 0 2
Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Rated speed rpm Aneroid pressure hFa	: 1250 : 1000 : 2.6 : 0.4 : 0.7 : 500	Check tolerance ccm/10s +: 22. Check tolerance ccm/10s +: 22. Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97. Tolerance	2 2 0 2
Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure	: 1250 : 1000 : 2.6 : 0.4 : 0.7 : 500 : 1000	Com/10s + : 22. Check tolerance ccm/10s + : 22. Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97. Tolerance ccm/10s + : 41.6	2 2 0 2 6
Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Rated speed rpm Aneroid pressure hFa Rated speed rpm	: 1250 : 1000 : 2.6 : 0.4 : 0.7 : 500 : 1000 : 450	Check tolerance ccm/10s + : 22. Check tolerance ccm/10s + : 22. Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97. Tolerance ccm/10s + : 41. Check tolerance ccm/10s + : 41.	2 2 0 2 6
Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Rated speed rpm Aneroid pressure hFa	: 1250 : 1000 : 2.6 : 0.4 : 0.7 : 500 : 1000	Check tolerance ccm/10s + : 22. Check tolerance ccm/10s + : 22. Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97. Tolerance ccm/10s + : 41. Check tolerance ccm/10s + : 41.	2 2 0 2 6
Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hFa Rated speed rpm SV travel mm	: 1250 : 1000 : 2.6 : 0.7 : 500 : 1000 : 450 : 2.5	Check tolerance ccm/10s + : 22. Check tolerance ccm/10s + : 22. Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97. Tolerance ccm/10s + : 41. Check tolerance ccm/10s + : 41.	2 2 0 2 6
Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hFa Rated speed rpm SV travel mm Tolerance mm +-	: 1250 : 1000 : 2.6 : 0.7 : 500 : 1000 : 450 : 2.5	Check tolerance ccm/10s +: 22. Check tolerance ccm/10s +: 22. Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97. Tolerance ccm/10s +: 41. Check tolerance ccm/10s +: 41. Check tolerance ccm/10s +: 41.	2 2 0 2 6
Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hFa Rated speed rpm SV travel mm Tolerance mm +- Check	: 1250 : 1000 : 2.6 : 0.7 : 500 : 1000 : 450 : 2.5 : 0.5	Check tolerance ccm/10s + : 22. Check tolerance ccm/10s + : 22. Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97. Tolerance ccm/10s + : 41. Check tolerance ccm/10s + : 41. Check tolerance ccm/10s + : 41. Rated speed rpm : 1350	2 2 0 2 6
Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hFa Rated speed rpm SV travel mm Tolerance mm +- Check	: 1250 : 1000 : 2.6 : 0.7 : 500 : 1000 : 450 : 2.5 : 0.5	Check tolerance ccm/10s + : 22. Check tolerance ccm/10s + : 22. Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97. Tolerance ccm/10s + : 41. Check tolerance ccm/10s + : 41. Check tolerance ccm/10s + : 41. Rated speed rpm : 1350 Aneroid pressure	2 2 0 2 6 ACTERISTIC
Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hFa Rated speed rpm SV travel mm Tolerance mm +- Check tolerance mm +-	: 1250 : 1000 : 2.6 : 0.7 : 500 : 1000 : 450 : 2.5 : 0.7	Check tolerance ccm/10s + : 22. Check tolerance ccm/10s + : 22. Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97. Tolerance ccm/10s + : 41. Check tolerance ccm/10s + : 41. Check tolerance ccm/10s + : 41. Rated speed rpm : 1350 Aneroid pressure	2 2 0 2 6 ACTERISTIC
Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hFa Rated speed rpm SV travel mm Tolerance mm +- Check tolerance mm +-	: 1250 : 1000 : 2.6 : 0.7 : 500 : 1000 : 450 : 2.5 : 0.7	Check tolerance ccm/10s + : 22. Check tolerance ccm/10s + : 22. Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97. Tolerance ccm/10s + : 41. Check tolerance ccm/10s + : 41. Check tolerance ccm/10s + : 41. Rated speed rpm : 1350 Aneroid pressure hPa : 1000	2 2 0 2 6 ACTERISTIC
Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Rated speed rpm Aneroid pressure hFa Rated speed rpm SV travel mm Tolerance mm + Check tolerance mm + KSB/AFB Volt	: 1250 : 1000 : 2.6 : 0.4 : 0.7 : 500 : 1000 : 450 : 0.5 : 0.7 : 24	Check tolerance ccm/10s + : 22. Check tolerance ccm/10s + : 22. Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97. Tolerance ccm/10s + : 41. Check tolerance ccm/10s + : 41. Check tolerance ccm/10s + : 41. Rated speed rpm : 1350 Aneroid pressure hPa : 1000 Del. quantity	2 2 0 2 6 ACTERISTIC
Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Rated speed rpm Aneroid pressure hFa Rated speed rpm SV travel mm Tolerance mm + Check tolerance mm + KSB/AFB Volt Rated speed rpm	: 1250 : 1000 : 2.6 : 0.4 : 0.7 : 500 : 1000 : 450 : 0.5 : 0.7 : 24	Check tolerance ccm/10s + : 22.6 Check tolerance ccm/10s + : 22.6 Rated speed rpm : 1250 Aneroid pressure hPa : 100 Overflow quantity ccm/10s : 97.6 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6 DELIVERY AND BREAKAWAY CHARA Rated speed rpm : 1350 Aneroid pressure hPa : 1006 Del. quantity cm3/1000 strokes : 58.6 Tolerance	2 2 0 2 6 ACTERISTIC 0 0
Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Rated speed rpm Aneroid pressure hFa Rated speed rpm SV travel mm Tolerance mm + Check tolerance mm + KSB/AFB Volt Rated speed rpm Aneroid pressure	: 1250 : 1000 : 2.6 : 0.7 : 500 : 1000 : 450 : 0.7 : 24 : 850	Check tolerance ccm/10s + : 22.6 Check tolerance ccm/10s + : 22.6 Rated speed rpm : 1250 Aneroid pressure hPa : 100 Overflow quantity ccm/10s : 97.6 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6 DELIVERY AND BREAKAWAY CHARA Rated speed rpm : 1350 Aneroid pressure hPa : 1006 Del. quantity cm3/1000 strokes : 58.6 Tolerance cm3/1000 str. + : 3.6	2 2 0 2 6 ACTERISTIC 0 0
Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Rated speed rpm Aneroid pressure hFa Rated speed rpm SV travel mm Tolerance mm + Check tolerance mm + KSB/AFB Volt Rated speed rpm Aneroid pressure	: 1250 : 1000 : 2.6 : 0.7 : 500 : 1000 : 450 : 0.7 : 24 : 850	Check tolerance ccm/10s + : 22.6 Check tolerance ccm/10s + : 22.6 Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.6 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6 Rated speed rpm : 1350 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 58.6 Tolerance cm3/1000 str. + : 3.6 Check tolerance	2 2 0 2 6 ACTERISTIC 0 0

	1	Dal mumhāh.
Rated speed rpm : Aneroid pressure	1425	Del. quantity cm3/1000 strokes : 81.5 Tolerance
hPa :	1000	cm3/1000 str. +-: 0.5
Del. quantity cm3/1000 strokes : Check tolerance	25.0	Chack tolerance cm3/1000s. +-: 3.0
cm3/1000s. +:	15.0	
Rated speed rpm :	1480	MECHANICAL SHUTOFF
Aneroid pressure hPa :	1000	Rated speed rpm : 1250 Aneroid pressure
Del. quantity cm3/1000 strokes :	1.5	hPa : 1000 Del. quantity
Tolerance cm3/1000 str. +:	1.5	cm3/1000 strokes : 1.5 Tolerance
Check tolerance	1.5	cm3/1000 str. + : 1.5
	+	Check tolerance cm3/1000s. +-: 1.5
Rated speed rpm : Aneroid pressure	600	
hPa : Del. quantity	450	IDLE DELIVERY
cm3/1000 strokes : Tolerance	73.5	Rated speed rpm : 410
cm3/1000 str. + : Check tolerance	0.5	Del. quantity cm3/1000 strokes : 1.5
cm3/1000s. +-:	4.0	Tolerance cm3/1000 str. +-: 1.5
Rated speed rpm : Aneroid pressure	1250	Check tolerance
hPa :	1000	cm3/1000s. +-: 1.5
Del. quantity cm3/1000 strokes :	80.5	
Tolerance cm3/1000 str. +-:	2.0	
Check tolerance cm3/1000s. +-:	3.0	START TRANSITION
Rated speed rpm :	1100	Rated speed rpm : 200
Aneroid pressure hPa :	1000	Del. quantity cm3/1000 strokes : 75.0
Del. quantity cm3/1000 strokes :	83.0	Tolerance cm3/1000 str. +-: 15.0
Tolerance cm3/1000 str. +-:	1.5	
Check tolerance cm3/1000s. +:	3.5	Rated speed rpm : 130 Del. quantity
Rated speed rpm :	500	cm3/1000 strokes : 95.0 Tolerance
Aneroid pressure hPa :	1000	cm3/1000 str. +: 20.0
Del. quantity cm3/1000 strokes :	95.0	ASSEMBLY AND ADJUSTMENT DIMENSIONS
Tolerance cm3/1000 str. +:	5.0	Dimension K mm : 3,7
Rated speed rpm :	850	Tolerance mm + : 0,1 Dimension KF mm : 6,4
Aneroid pressure	1000	Tolerance mm + : 0,2 MS1 dimension mm : 1,35
	•	•

Tolerance mm + : 0,15 SVS dimension mm : 2,6

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 43,3..48,9

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.04.97 Test oil : ISO 4113

Part no. : 3 282 001

Pump designation: VE6/12F1250R498-2E

Customer-spec. information Customer : CDC

: 6 BTA 5.9B Motor

TEST BENCH REQUIREMENTS

Calibrating oil return

temperature °C Tolerance *C +-:

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar ←: 0.05

Test nozzle holde

: 1 688 901 109 assembly

Opening pressure

207 bar Tolerance bar +-:

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 840 x length mm

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,2

Tolerance mm +: 0.02(0.06)

Outlet : D

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1000

Aneroid pressure

1000

2.1 Setting mm Tolerance mm 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm 1000

Aneroid pressure

hPa 1000

Supply pomp

pressure bar 6.6

Tolerance bar +-: 0.3

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 850

Aneroid pressure

hPa 1000

Del. quantity cm3/1000 strokes : 81.5

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 5.0

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 67.5

Tolerance

cm3/1000 str. +-:0.5

Spread

cm3/1000 strokes :

5.0

Check tolerance

cm3/1000s.6.0

Check tolerance

cm3/1000s. 5.0

IDLE SETTING

350 Rated speed rpm

Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 str. + :2.0

Spread		+ Tolerance mm + : 0.4
cm3/1000 strokes :	5.5	Check
Check tolerance cm3/1000s. :	7.0	tolerance mm +: 0.7
		SUPPLY PUMP PRESSURE CHARACTERISTIC
		Rated speed rpm : 1250
FULL-LOAD SPEED REG	ULATION -	+ Aneroid pressure + hPa : 1000
Rated speed rpm :	1350	Supply pomp pressure bar : 7.5
	1000	Tolerance bar +: 0.3
Del. quantity	, , ,	+
cm3/1000 strokes : Tolerance	58.0	Rated speed rpm : 850 Aneroid pressure
cm3/1000 str. +:	3.0	hPa : 1000
		Supply pomp
STARTING FUEL DELIY	ERY -	pressure bar : 6.0
.		Tolerance bar +-: 0.3
Rated speed rpm :	100	Data dans a dans a series a se
Del. quantity cm3/1000 strokes :	80.0	Rated speed rpm : 500 Aneroid pressure
Tolerance		hPa : 1000
cm3/1000 str. + :	15.0	Supply pomp
	-	pressure bar : 4.2
	•	Tolerance bar +-: 0.3
		OVERFLOW QUANTITY
		
INJECTION-PUMP TEST	SPECIFICATIONS -	Rated speed rpm : 500 Overflow quantity
TIMING DEVICE CHARA	CTERISTIC -	ccm/10s : 63.8
		+ Tolerance
Rated speed ripm :	1250 -	ccm/10s +-: 22.2
Aneroid pressure hPa :	1000	T Check tolerance
111 0	1000	+ ccm/10s + : 22.2
SV travel mm :	2.6	+
Tolerance mm +:	0.4	Rated speed rpm : 1250
Check		Aneroid pressure
tolerance mm +:	0.7	hPa : 1000
Rated speed rpm :	500	+ Overflow quantity + ccm/10s : 97.2
Aneroid pressure	-	Tolerance
hPa :	1000	ccm/10s +: 41.6
Rated speed rpm :	450 -	Check tolerance
	-	f ccm/10s +: 41.6
SV travel mm :	2.5	DEL TIVERY AND EDEALAND CHARACTER COTTO
Tolerance mm +: Check	0.5	DELIVERY AND BREAKAWAY CHARACTERISTIC
tolerance mm +:	0.7	Rated speed rpm : 1350 Aneroid pressure
KSB/AFB Volt :	12	hPa : 1000
Rated speed rpm :	850 -	Del. quantity cm3/1000 strokes : 58.0
Aneroid pressure	•	Tolerance
hPa :	1000 -	cm3/1000 str. +-: 3.0 Check tolerance
SV travel mm :	1.0	cm3/1000s. + : 6.0

Rated speed rpm Aneroid pressure hPa		1000	- Dimension KF mm : 6,4 - Tolerance mm +-: 0,2 - MS1 dimension mm : 1,35
cm3/1000 str. +-		5.0	Dimension K mm : 3,7 Tolerance mm + : 0,1
Del. quantity cm3/1000 strokes Tolerance	:	95.0	- ASSEMBLY AND ADJUSTMENT DIMENSIONS
Aneroid pressure hPa	:	1000	- cm3/1000 str. ← : 20.0
Rated speed rpm	:	500	- cm3/1000 strokes : 95.0 - Tolerance
Check tolerance cm3/1000s. +-		3.5	Rated speed rpm : 130 Del. quantity
Tolerance cm3/1000 str. +-		1.5	
hPa Del. quantity cm3/1000 strokes	:	1000 - 83.0 -	- cm3/1000 strokes : 75.0 - Tolerance - cm3/1000 str. +- : 15.0
Rated speed rpm Aneroid pressure	: 1	100	- Rated speed rpm : 200 DeL. quantity
Check tolerance cm3/1000s.	:	3.0	START TRANSITION
Tolerance cm3/1000 str. +-		2.0	
hPa Del. quantity cm3/1000 strokes	•	1000 - 80.5 -	
Rated speed rpm Ameroid pressure		250 -	Check tolerance cm3/1000s. +-: 1.5
cm3/1000s. +-	:	4.0	Tolerance - cm3/1000 str. + : 1.5
Tolerance cm3/1000 str. +- Check tolerance	:	0.5	Rated speed rpm : 410 Del. quantity cm3/1000 strokes : 1.5
Del. quantity cm3/1000 strokes	:	73.5	IDLE DELIVERY
Aneroid pressure hPa	:	450	
cm3/1000S. +- Rated speed rpm		600	- cm3/1000s. +-: 1.5
cm3/1000 str. +- Check tolerance cm3/1000s. +-		1.5	- Tolerance - cm3/1000 str. +-: 1.5 - Check tolerance
cm3/1000 strokes Tolerance		1.5	Del. quantity cm3/1000 strokes : 1.5
Aneroid pressure hPa Del. quantity	:	1000	Rated speed rpm : 1250 Aneroid pressure hPa : 1000
Rated speed rpm	_	480	MECHANICAL SHUTOFF
cm3/1000 strokes Check tolerance cm3/1000s. +-		25.0 - 15.0 -	cm3/1000s. +-: 3.0
hPa Del. quantity	;	1000	cm3/1000 str. +-: 0.5 Check tolerance
Rated speed rpm Aneroid pressure	: 1	425 -	cm3/1000 strokes : 81.5 Tolerance

Tolerance mm +-: 0,15 SVS dimension mm : 2,6

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 43,3..48,9

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22,04,97 Test oil : ISO 4113

Part no. : 3 282 000

Pump designation: VE6/12F1250R498-2F

Customer-spec. information üustomer : CDC

Motor : 6 BTA 5.9B

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C + :

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 109 assembly

Opening pressure

bar 207 Tolerance bar +-:

Test lines : 1 680 750 000

Outside diameter : 5.00

2.00 x inside diameter : x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke fam: 1,2

Tolerance mm +: 0.02(0.06)

Outlet : D

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1000

Aneroid pressure

hPa 1000

Setting mm 2.1 Tolerance mm 0.2 Shutoff solenoid

Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1000 Aneroid pressure hPa 1000 Supply pomp

pressure bar 6.6 Tolerance bar + : 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

12

Rated speed rpm 850 Aneroid pressure

hPa

1000

Del. quantity

cm3/1000 strokes : 81.5

Tolerance

cm3/1000 str. +-:0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s.5.0

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500 Del. quantity

cm3/1000 strokes : 67.5

Tolerance

cm3/1000 str. + :0.5

Spread

5.0 cm3/1000 strokes :

Shutoff solenoid

12

Volt

Check tolerance

cm3/1000s.

6.0

Check tolerance cm3/1000S.

5.0

		+	Aneroid pressure	
IDLE SETTING		†	hPa Shutoff solenoid	: 1000
Rated speed rpm Del. quantity	: 350	‡	Volt	: 12
cm3/1000 strokes Tolerance	: 13.0	<u>†</u>	Rated speed rpm	: 450
cm3/1000 str. +- Shutoff solenoid	: 2.0	1	SV travel mm Tolerance mm +-	: 2.5 : 0.5
Volt Spread	: 12	<u> </u>	Check tolerance mm +	: 0.7
cm3/1000 strokes Check tolerance	: 5.5	1	Shutoff solenoid Volt	: 12
cm3/1000s.	: 7.0	‡	KSB/AFB Volt	: 12
		‡	Rated speed rpm	
FULL-LOAD SPEED RI	EGULATION	<u> </u>	Aneroid pressure	: 1000
		+		
Rated speed rpm Pressure hPa	: 1350 : 1000	‡	SV travel mm Tolerance mm +	: 1.0 : 0.4
Del. quantity cm3/1000 strokes	: 58.0	‡	Check tolerance mm +	: 0.7
Tolerance cm3/1000 str. +	: 3.0	‡	Shutoff solenoid Volt	: 12
Shutoff solenoid Volt	: 12	‡	SUPPLY PUMP PRESSU	JRE CHARACTERISTIC
STARTING FUEL DEL	rvepy	<u> </u>	Rated speed rpm	: 1250
OTANTING TOLL DEL.	PAPILL	I	Aneroid pressure	. 1230
Rated speed rpm Del. quantity	: 100	1	hPa Supply pomp	: 1000
cm3/1000 strokes Tolerance	: 80.0	Ţ	pressure bar Tolerance bar	: 7.5 : 0.3
cm3/1000 str. +- Shutoff solenoid	: 15.0	<u> </u>	Shutoff solenoid Volt	: 12
Volt	: 12	+		_
		‡	Rated speed rom Aneroid pressure	: 850
		‡	hPa Supply pomp	: 1000
THEOTICAL DIME TO	T CDEATERAL	CANC	pressure bar	
INJECTION-PUMP TES	SI SPECIFICALI	.UNS +	Tolerance bar +- Shutoff solenoid	: 0.3
TIMING DEVICE CHAP	RACTERISTIC	‡	Volt	: 12
Rated speed rpm Aneroid pressure	: 1250	<u> </u>	Rated speed rpm Aneroid pressure	: 500
hPa	: 1000	1	hPa Supply pomp	: 1000
SV travel mm	: 2.6	+	pressure bar	
Tolerance mm +- Check	: 0.4	‡	Tolerance bar +- Shutoff solenoid	
tolerance mm + Shutoff solenoid	: 0.7	‡	Volt	: 12
Volt	: 12	1	OVERFLOW QUANTITY	
Rated speed rpm	: 500	+	Rated speed rpm	; 500

Overflow quantity ccm/10s : 63.8	+ Aneroid pressure + hPa : 450
Tolerance ccm/10s +-: 22.2	Del. quantity cm3/1000 strokes : 73.5
Check tolerance ccm/10s +: 22.2	Tolerance cm3/1000 str. +-: 0.5 Check tolerance
Shutoff solenoid Volt : 12	cm3/1000s. +: 4.0 Shutoff solenoid
Rated speed rpm : 1250	Volt : 12
Aneroid pressure hPa : 1000	Rated speed rpm : 1250 Aneroid pressure
Overflow quantity ccm/10s : 97.2	hPa : 1000 + Del. quantity
Tolerance +: 41.6	+ cm3/1000 strokes : 80.5 + Tolerance
Check tolerance	cm3/1000 str. +-: 2.0 Check tolerance
ccm/10s + : 41.6 Shutoff solenoid Volt : 12	+ cm3/1000s. +-: 3.0 + Shutoff solenoid
Volt : 12	+ Volt : 12
DELIVERY AND BREAKAWAY CHARACTERISTIC	Rated speed rpm : 1100 Aneroid pressure
Rated speed rpm : 1350 Aneroid pressure	+ hPa : 1000 + Del. quantity
hPa : 1000 Del. quantity	- cm3/1900 strokes : 83.0 Tolerance
<pre>cm3/1000 strokes : 58.0 Tolerance cm3/1000 str. +-: 3.0</pre>	+ cm3/1000 str. +: 1.5 + Check tolerance + cm3/1000s. +: 3.5
Check tolerance	+ Shutoff solenoid
cm3/1000s. + : 6.0 Shutoff solenoid	+ Volt : 12
Volt : 12	+ Rated speed rpm : 500 + Aneroid pressure
Rated speed rpm : 1425 Ameroid pressure hPa : 1000	+ hPa : 1000 + Del. quantity + cm3/1000 strokes : 95.0
Del. quantity cm3/1000 strokes : 25.0	Tolerance + cm3/1000 str. + : 5.0
Check tolerance cm3/1000s. + : 15.0	Shutoff solenoid Volt : 12
Shutoff solenoid Volt : 12	Rated speed rpm : 850
Rated speed rpm : 1480	Aneroid pressure hPa : 1000
Aneroid pressure hPa : 1000 Del. quantity	+ Del. quantity + cm3/1000 strokes : 81.5 + Tolerance
cm3/1000 strokes : 1.5 Tolerance	toterance cm3/1000 str. +: 0.5 check tolerance
cm3/1000 str. +-: 1.5 Check tolerance	cm3/1000s. + : 3.0 Shutoff solenoid
cm3/1000s. + : 1.5 Shutoff solenoid	Yolt : 12
Volt : 12	+ MECHANICAL SHUTOFF
Rated speed rpm : 600	+

Rated speed rpm	
Aneroid pressure hPa	: 1000
Del. quantity cm3/1000 strokes	: 1.5
Tolerance cm3/1000 str. +-	-: 1.5
Check tolerance cm3/1000s. +-	-: 1.5
Shutoff solenoid Volt	: 12
ELECTR. SHUTOFF CONTROL LEVER, ID	DLE STOP
Rated speed rpm Del. quantity	: 350
cm3/1000 strokes Tolerance	: 1.5
cm3/1000 str. +- Check tolerance	
cm3/1000s. +-	-: 1.5
IDLE DELIVERY	
Rated speed rpm	: 410
Del. quantity cm3/1000 strokes	: 1.5
Tolerance cm3/1000 str. +-	-: 1.5
Check tolerance cm3/1000s. +	-: 1.5
Shutoff solenoid Volt	: 12
START TRANSITION	
Rated speed rpm	: 200
Del. quantity cm3/1000 strokes	: 75.0
Tolerance cm3/1000 str. +-	-: 15.0
Shutoff solenoid Volt	: 12
Rated speed rpm Del. quantity	: 130
cm3/1000 strokes Tolerance	: 95.0
cm3/1000 str. +- Shutoff solenoid	20.0
Vol+	• 12

12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7
Tolerance mm +-: 0,1
Dimension KF mm : 6,4
Tolerance mm +-: 0,2
MS1 dimension mm : 1,35
Tolerance mm +-: 0,15
SVS dimension mm : 2,6

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 43,3..48,9

End of test-specification sheet

Volt

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.04.97 Test oil : ISO 4113

: 3 282 615 Part no.

Pump designation : VE6/12F1250R498-3A

Customer-spec. information Customer : CDC

: 6 BT Motor 5.9B

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.55

Inlet press. bar : 0.35Tolerance bar + : 0.05

Test nozzle holde

: 1 688 901 109 assembly

Opening pressure

bar 207 Tolerance bar +-: 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,2

Tolerance mm +-: 0.02(0.06)

Outlet |

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 900

Aneroid pressure

hPa 1000

Setting mm 1.7 Tolerance mm 0.2 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 900

Aneroid pressure

hPa 1000

Supply pomp pressure bar 6.2 Tolerance bar +-: 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 850

Aneroid pressure hPa 1000

Del. quantity

cm3/1000 strokes : 85.0

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 5.0

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 61.0

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes 5.0

Shutoff solenoid

Volt 12

Check tolerance

cm3/1000s. 6.0

Check tolerance

cm3/1000s. 5.0

IDLE SETTING		+ Aneroid pressure
		+ hPa : 1000 + Shutoff solenoid
Rated speed rpm Del. quantity	: 350	+ Volt : 12
cm3/1000 strokes Tolerance	: 13.0	Rated speed rpm : 450
cm3/1000 str. +	: 2.0	SV travel mm : 2.5
Shutoff solenoid Volt	: 12	+ Tolerance mm + : 0.5 + Check
Spread cm3/1000 strokes	: 5,5	tolerance mm +: 0.7 Shutoff solenoid
Check tolerance cm3/1000s.	: 7.0	+ Volt : 12
		KSB/AFB Volt : 12
		Rated speed rpm : 800 Aneroid pressure
FULL-LOAD SPEED RE	EGULATION	hPa : 1000
Rated speed rpm		SV travel mm : 1.3
Pressure hPa Del. quantity	: 1000	Tolerance mm + : 0.4 Check
cm3/1000 strokes Tolerance		tolerance mm +: 0.7 Shutoff solenoid
cm3/1000 str. + Shutoff solenoid	: 3.0	+ Volt : 12
Volt	: 12	SUPPLY PUMP PRESSURE CHARACTERISTIC
STARTING FUEL DEL	IVERY	Rated speed rpm : 1250 Aneroid pressure
Rated speed rpm Del. quantity	: 100	+ hPa : 1000
cm3/1000 strokes	: 80.0	Supply pomp pressure bar : 7.5
Tolerance cm3/1000 str. +-	: 20.0	Tolerance bar +: 0.3 Shutoff solenoid
Shutoff solenoid Volt	: 12	+ Volt : 12
		+ Rated speed rpm : 800 + Aneroid pressure
		+ hPa : 1000 + Supply pomp
		+ pressure bar : 5.7
INJECTION-PUMP TE	ST SPECIFICATIONS	Tolerance bar + : 0.3 Shutoff solenoid
TIMING DEVICE CHAP	RACTERISTIC	+ Volt : 12
Rated speed rpm Aneroid pressure	: 1250	Rated speed rpm : 500 Aneroid pressure
hPa	: 1000	+ hPa : 1000
SV travel mm	: 2.6	Supply pomp : 4.2
Tolerance mm +- Check	: 0.4	+ Tolerance bar + : 0.3 + Shutoff solenoid
tolerance mm +- Shutoff solenoid	: 0.7	+ Volt : 12
Volt	: 12	OVERFLOW QUANTITY
Rated speed rpm	: 500	Rated speed rpm : 500

Overflow quantity ccm/10s : 63.8	+ Aneroid pressure
Tolerance	+ hPa : 450 + Del. quantity
ccm/10s + : 22.2	+ cm3/1000 strokes : 72.0 + Tolerance
Check tolerance ccm/10s +: 22.2	+ cm3/1000 str. +-: 0.5 + Check tolerance
Shutoff solenoid Volt : 12	cm3/1000s. +: 4.0 Shutoff solenoid
Rated speed rpm : 1250	+ Volt : 12
Aneroid pressure hPe : 1000	Rated speed rpm : 1250 Aneroid pressure
Overflow quantity ccm/10s : 97.2	hPa : 1000
Tolerance	+ Del. quantity + cm3/1000 strokes : 82.0
ccm/10s + : 41.6	Tolerance cm3/1000 str. +: 2.0
Check tolerance ccm/10s + : 41.6	the Check tolerance cm3/1000s. + : 3.0
Shutoff solenoid Volt : 12	Shutoff solenoid Volt : 12
DELIVERY AND BREAKAWAY CHARACTERISTIC	Rated speed rpm : 1100
Rated speed rpm : 1350	Aneroid pressure : 1000
Aneroid pressure hPa : 1000	+ Del. quantity - cm3/1000 strokes : 85.0
Del. quantity cm3/1000 strokes : 54.0	+ Tolerance + cm3/1000 str. +-: 1.5
Tolerance cm3/1000 str. +-: 3.0	+ Check tolerance + cm3/1000s. +-: 3.5
Check tolerance cm3/1000s. + : 8.0	+ Shutoff solenoid + Volt : 12
Shutoff solenoid Volt : 12	Rated speed rpm : 850
Rated speed rpm : 1425	+ Aneroid pressure + hPa : 1000
Aneroid pressure hPa : 1000	+ Del. quantity + cm3/1000 strokes : 85.0
Del. quantity cm3/1000 strokes : 25.0	Tolerance + cm3/1000 str. +: 0.5
Check tolerance cm3/1000s. +: 15.0	theck tolerance cm3/1900s. +: 3.0
Shutoff solenoid Volt : 12	Shutoff solenoid Volt : 12
Rated speed rpm : 1480	
Aneroid pressure hPa : 1000	MECHANICAL SHUTOFF
Del. quantity cm3/1000 strokes : 1.5	Rated speed rpm : 1250 Aneroid pressure
Tolerance cm3/1000 str. + : 1.5	hPa : 1000 Del. quantity
Check tolerance	+ cm3/1000 strokes : 1.5
Shutoff solenoid	+ Tolerance + cm3/1000 str. + : 1.5
Volt : 12	the Check tolerance cm3/1000s. +: 1.5
Rated speed rpm : 650	†

Volt	:	12	
ELECTR. SHUTOFF CONTROL LEVER, ID	LE S	STOP	
Rated speed rpm Del. quantity	:	350	
cm3/1000 strokes Tolerance	:	1.5	
cm3/1000 str. + Check tolerance	:	1.5	
cm3/1000s. +-	:	1.5	
FULL-LOAD STOP CO	VTRO	L LEVER	
Rated speed rpm Del. quantity	:	350	
cm3/1000 strokes	:	1.5	
IDLE DELIVERY			
Rated speed rpm Del. quantity	:	410	
cm3/1000 strokes Tolerance	:	1.5	
cm3/1000 str. +- Check tolerance	:	1.5	
cm3/1000s. +- Shutoff solenoid	:	1.5	
Volt	:	12	
STARY TRANSITION			
Rated speed rpm	:	210	
Del. quantity cm3/1000 strokes Tolerance	:	75.0	
cm3/1000 str. +- Shutoff solenoid	:	20.0	
Volt	:	12	
	:	130	
Del. quantity cm3/1000 strokes	:	95.0	
Tolerance cm3/1000 str. ←	:	20.0	
Shutoff solenoid Volt	:	12	

Dimension K mm : 3,7
Tolerance mm + : 0,1
Dimension KF mm : 6,4
Tolerance mm + : 0,2
MS1 dimension mm : 1,4
Tolerance mm + : 0,1

CONTROL LEVER POSITION

SET

Control Lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 43,6..48,8

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.04.97 Test oil : ISO 4113

: 3 282 889 Part no.

Pump designation: VE6/12F1250R498-5A

Customer-spec, information Customer : CDC

: 6 BT 5.9B Motor Power KW 120.0

TEST BENCH REQUIREMENTS

Calibrating-oil return

temperature °C folerance °C ←:

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

: 1 688 901 109 assembly

Opening pressure

bar 207 Tolerance bar ←:

Test lines : 1 689 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,4

Tolerance mm +: 0.02(0.06)

Outlet | : D

INJECTION PUMP SETTING VALUES

TIMINS DEVICE TRAVEL

Rated speed rpm 1100

Aneroid pressure

hPa 1000

Setting mm 1.8 Tolerance mm 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm 1100

Aneroid pressure

hPa 1000

Supply pomp

pressure bar Tolerance bar + : 0.3

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 850

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 81.6

Tolerance cm3/1000 str. + :

Spread

cm3/1000 strokes :

Check tolerance

cm3/1000s. 5.0

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

0.5

5.0

500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 68.1

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s.6.0

Check tolerance

cm3/1000s.5.0

IDLE SETTING

Rated speed rpm 345

Del. quantity

cm3/1000 strokes : 10.0

Tolerance	+ Aneroid pressure
cm3/1000 str. +-: 2.0 Spread	hPa : 1000 Supply pomp
cm3/1000 strokes : 5.5	pressure bar : 7.3
Check tolerance	Tolerance bar +-: 0.3
cm3/1000s. : 7.0	+
	Rated speed rpm : 800
	Aneroid pressure hPa : 1000
	- Supply pomp
FULL-LOAD SPEED REGULATION	pressure bar : 5.7
Patrol arrest may 4700	Tolerance bar + : 0.3
Rated speed rpm : 1380 Pressure hPa : 1000	Rated speed rpm : 500
Del. quantity	Aneroid pressure
cm3/1000 strokes : 60.0	hPa : 1000
Tolerance	Supply pomp
cm3/1000 str. +-: 6.0	pressure bar : 4.5 Tolerance bar +: 0.3
STARTING FUEL DELIVERY	Total alice bar . 0.5
	OVERFLOW QUANTITY
Pated speed rpm : 100	†
Del. quantity cm3/1000 strokes : 85.0	Rated speed rpm : 500 Overflow quantity
Tolerance	- ccm/10s : 63.8
cm3/1000 str. +: 15.0	Tolerance
•	ccm/10s +-: 22.2
	Check tolerance
	ccm/10s +: 22.2
INJECTION-PUMP TEST SPECIFICATIONS	Rated speed rpm : 1250
TIMING DEVICE CHARACTERISTIC	† Aneroid pressure † hPa : 1000
TATISTIC PETERS GITTING ENTERINE	Overflow quantity
Rated speed rpm : 1250	+ ccm/10s : 77.7
Aneroid pressure : 1000	Tolerance - ccm/10s +-: 27.7
hPa : 1000 -	- : 27.7
SV travel mm : 2.5	Check tolerance
Tolerance mm +: 0.4	ccm/10s +: 27.7
Check tolerance mm +: 0.7	† DELIVERY AND BREAKAWAY CHARACTERISTIC
toterance him +=: U.7	+ DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm : 500	Rated speed rpm : 1380
Aneroid pressure	Aneroid pressure
hPa ; 1000	hPa : 1000 Del. quantity
Rated speed rpm : 450	cm3/1000 strokes : 60.0
	Tolerance
SV travel mm : 2.5	cm3/1000 str. +: 6.0
Tolerance mm +: 0.5	- Check tolerance - cm3/1000s. +-: 8.0
tolerance mm +: 0.7	
	Rated speed rpm : 1465
KSB/AFB Volt : 12	+ Aneroid pressure - hPa : 1000
SUPPLY PUMP PRESSURE CHARACTERISTIC -	hPa : 1000 Del. quantity
	cm3/1000 strokes : 20.0
Rated speed rpm : 1250	+

Check tolerance cm3/1000s. +:	20.0	Del. quantity cm3/1000 strokes : 1.5
Rated speed rpm : Aneroid pressure	1500	Tolerance cm3/1000 str. +-: 1.5 Spread
hPa : Del. quantity	1000	cm3/1000 strokes : 5.0 Check tolerance
cm3/1000 strokes : Tolerance	1.5	cm3/1000s. +: 1.5
cm3/1000 str. +-: Check tolerance	1.5	cm3/1000 strokes : 5.0
cm3/1000s. +-:	1.5	
Rated speed rpm : Aneroid pressure	600	IDLE DELIVERY
hPa : Del. quantity	400	Rated speed rpm : 410 Del. quantity
cm3/1000 strokes : Tolerance	73.9	cm3/1000 strokes : 1.5 Tolerance
cm3/1000 str. +-: Check tolerance	0.5	cm3/1000 str. +-: 1.5 Check tolerance
cm3/1000s. +-:	4.0	cm3/1000s. +-: 1.5
Rated speed rpm : Aneroid pressure	1250	
hPa : Del. quantity	1000	
cm3/1000 strokes : Tolerance	84.2	START TRANSITION
cm3/1000 str. + : Check tolerance cm3/1000s. + :	2.0 3.5	Rated speed rpm : 240 Del. quantity
Rated speed rpm :	1100	cm3/1000 strokes : 30.0 Tolerance
Aneroid pressure	1000	cm3/1000 str. +: 10.0
Del. quantity cm3/1900 strokes :	83.8	Rated speed rpm : 130
Tolerance cm3/1000 str. +:	2.5	Del. quantity cm3/1000 strokes : 100.0
Check tolerance cm3/1000s. +-:	4.0	Tolerance
Rated speed rpm :	850	
Aneroid pressure hPa :	1000	ASSEMBLY AND ADJUSTMENT DIMENSIONS
Del. quantity cm3/1000 strokes :	81.6	Dimension K mm : 3,7 Tolerance mm +-: 0,1
Tolerance cm3/1000 str. +:	0.5	Dimension KF mm : 6,4 Tolerance mm +=: 0,2
Check tolerance cm3/1000s. +:	2.5	- MS1 dimension mm : 1,15 - Tolerance mm +- : 0,15 - SVS dimension mm : 3,8
MECHANICAL SHUTOFF		
Rated speed rpm : Aneroid pressure	1250	CONTROL LEVER POSITION SET
hPa :	1000 -	-

Control lever position YA mm

: 34,8..38,8

Control lever position YB mm : 43,9..49,1

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Fdition : 23.04.97 Test oil : ISO 4113

Part no. : 3 281 929

Pump designation: VE6/12F1250R498E

Customer-spec. information Customer : CDC

Motor : 6 BTAA 5.9B

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance *C +-:

Overflow

restriction mm 0.55

inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 109 assembly

Opening pressure

207 bar Tolerance bar + :

Test Lines : 1 680 750 000

Outside diameter : 6.00

2.00 x inside diameter : 840 x length mm

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,4

Tolerance mm +-:0.02(0.06)

Outlet | : D

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000

Aneroid pressure

hPa 1000

Setting mm 1.7 Tolerance mm 0.2 Shutoff solenoid

Volt

SUPPLY PUMP PRESSURE

Rated speed rpm : 1000

Aneroid pressure

hPa 1000

Supply pomp pressure bar 6.6 Tolerance bar +-: 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

12

0.5

5.0

12

Rated speed rpm 850 Aneroid pressure

hPa

1000

Del. quantity cm3/1000 strokes :

84.5 Tolerance

cm3/1000 str. ÷=:

Spread 5.0

cm3/1000 strokes :

Check tolerance

cm3/1000s.

Shutoff solenoid

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 71.0 Tolerance

cm3/1000 str. +-:

0.5 Spread

Volt

cm3/1000 strokes 5.0

Shutoff solenoid

Volt

Check tolerance

cm3/1000s.6.0

Check tolerance cm3/1000s.

5.0

12

	+ Aneroid pressure
IDLE SETTING	hPa : 1000 Shutoff solenoid
Rated speed rpm : 350 Del. quantity	Volt : 12
cm3/1000 strokes : 8.0 Tolerance	Rated speed rpm : 450
cm3/1000 str. +: 2.0 Shutoff solenoid	SV travel mm : 2.4 Tolerance mm + : 0.5
Volt : 12 Spread	Check tolerance mm +: 0.7
cm3/1000 strokes : 5.5 Check tolerance	Shutoff solenoid Volt : 12
cm3/1000s. : 7.0	KSB/AFB Volt : 12
	Rated speed rpm : 850
FULL-LOAD SPEED REGULATION	+ Aneroid pressure + hPa : 1000
Rated speed rpm : 1380	SV travel mm : 0.7
Pressure hPa : 1000	Tolerance mm +: 0.4
Del. quantity	+ Check
cm3/1000 strokes : 60.5	+ tolerance mm + : 0.7
Tolerance	+ Shutoff solenoid
cm3/1000 str. + : 3.0 Shutoff solenoid	† Volt : 12
Volt : 12	SUPPLY PUMP PRESSURE CHARACTERISTIC
STARTING FUEL DELIVERY	Rated speed rpm : 1250 Aneroid pressure
Rated speed rpm : 100 Del. quantity	+ hPa : 1000 + Supply pomp
cm3/1000 strokes : 85.0	+ pressure bar : 7.6
Tolerance	+ Tolerance bar + : 0.3
cm3/1000 str. +: 15.0	+ Shutoff solenoid
Shutoff solenoid	+ Volt : 12
Volt : 12	Rated speed rpm : 850
	+ Aneroid pressure + hPa : 1000 + Supply pomp
	+ pressure bar : 6.2
INJECTION-PUMP TEST SPECIFICATIONS	+ Tolerance bar +-: 0.3
2102012011 1011 1201 01 2021 2011 20110	+ Shutoff solenoid
TIMING DEVICE CHARACTERISTIC	Volt : 12
Rated speed rpm : 1250 Aneroid pressure	Rated speed rpm : 500 Aneroid pressure
hPa : 1000	hPa : 1000 + Supply pomp
SV travel mm : 2.4	pressure bar : 4.4
Tolerance mm +: 0.4	+ Tolerance bar + : 0.3
Check	+ Shutoff solenoid
tolerance mm + : 0.7 Shutoff solenoid	+ Volt : 12
Volt : 12	OVERFLOW QUANTITY
Rated speed rpm : 500	Rated speed rpm : 500

0			
Overflow quantity		+ Aneroid pressure	
ccm/10s :	63.8	+ hPa :	450
Tolerance		+ Del. quantity	
ccm/10s +-:	22.2	+ cm3/1000 strokes :	79.5
		+ Tolerance	
Check tolerance		+ cm3/1000 str. +-:	0.5
ccm/10s +:	22.2		0.5
	22.2	+ Check tolerance	
Shutoff solenoid		+ cm3/1000s. + -:	4.0
Volt :	12	+ Shutoff solenoid	
		+ Volt :	12
Rated speed rpm :	1250	+	
Aneroid pressure		+ Rated speed rpm :	1250
hPa :	1000	+ Aneroid pressure	, 250
Overflow quantity	1000	+ hPa :	1000
over flow quarterty	77 7		1000
ccm/10s :	77.7	+ Del. quantity	
Tolerance		+ cm3/1000 strokes :	84.0
ccm/10s +-:	27.7	+ Tolerance	
		+ cm3/1000 str. +-:	1.5
Check tolerance		+ Check tolerance	
ccm/10s +-:	27.7	+ cm3/1000s. +:	3.0
Shutoff solenoid	C	+ Shutoff solenoid	3.0
Volt :	43		40
vott :	12	† Volt :	12
A		†	
DELIVERY AND BREAKAW	AY CHARACTERISTIC	+ Rated speed rpm :	5 00
		+ Aneroid pressure	
Rated speed rpm :	1380	+ hPa :	1000
Ameroid pressure		→ Del. quantity	
hPa :	1000	+ cm3/1000 strokes :	97.0
Del. quantity	1000	+ Tolerance	,, .e
cm3/1000 strokes :	60.5	+ cm3/1000 str. +-:	5.0
	00.5		5.0
Tolerance		+ Shutoff solenoid	
cm3/1000 str. +-:	3.0	+ Volt :	12
Check tolerance		+	
cm3/1000s. +-:	6.0	+ Rated speed rpm :	850
Shutoff solenoid		+ Aneroid pressure	
Volt :	12	+ hPa :	1000
	16	+ Del. quantity	,655
Rated speed rom :	1465	7.4555	84.5
	1402		64.3
Aneroid pressure	1800	+ Tolerance	0.5
hPa :	1000	+ cm3/1000 str. $+$:	0.5
Del. quantity		+ Check tolerance	
cm3/1000 strokes :	20.0	+ cm3/1000s. $+-$:	3.0
Check tolerance		+ Shutoff solenoid	
cm3/1000s. +-:	10.0	+ Volt :	12
Shutoff solenoid		1	
Volt :	12	+	
	, <u></u>	+ MECHANICAL SHUTOFF	
Rated speed rpm :	1510	THE STATE STOTOLE	
	1510	T Dated aread are	1250
Aneroid pressure	1000	+ Rated speed rpm :	1250
hPa :	1000	+ Aneroid pressure	
Del. quantity		+ hPa :	1000
cm3/1000 strokes :	1.5	+ Del. quantity	
Tolerance		+ cm3/1000 strokes :	1.5
cm3/1000 str. +-:	1.5	+ Tolerance	
Check tolerance	· 	+ cm3/1000 str. +:	1.5
cm3/1000s. +-:	1.5	+ Check tolerance	
	1.5	+ cm3/1000s. +:	1.5
Shutoff solenoid	12	+ Shutoff solenoid	1.5
Volt :		- NOUTOTT COLDMANA	
	12		45
Rated speed rpm :	600	Volt :	12

		
LE ST	OP .	
:	350	
:	1.5	
:	1.5	
•		
•		
NTROL	LEVER	
:	350	
:	1.5	
:	1.5	
:	5.0	
•	5.0	
•	5.0	
:	410	
:	1.5	
:	1.5	
:	1.5	
:	12	
:	240	
÷		
:	15.0	
:	12	
•	130	
•		
:		
:	20.0	
	: : : : : : : : : : : : : : : : : : :	: 1.5 : 1.5 : 1.5 : 5.0 NTROL LEVER : 350 : 1.5 : 5.0 : 1.5

Shutoff solenoid Volt	:	12
ASSEMBLY AND ADJU	STMENT D	IMENSIONS
Dimension K mm Tolerance mm + Dimension KF mm Tolerance mm + MS1 dimension mm Tolerance mm + SVS dimension mm	: 0,1 : 6,4 : 0,2 : 1,35 : 0,15	
CONTROL LEVER POS SET	ITION	
Control lever position YA mm	: 34,8.	.38,8
Control lever position YB mm	: 43,8.	.49,4

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : Test oil :

: 23.04.97 : ISO 4113

Part no.

: 3 281 931

Pump designation: VE6/12F125DR498F

Customer—spec. information Customer : CDC

Motor

: 6 BTAA 5.9B

TEST BENCH REQUIREMENTS

Calibrating-oil return

temperature °C : 45
Tolerance °C \(\dagger : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 907 109

Opening pressure

bar : 207 Tolerance bar + : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,4

Tolerance mm +: 0.02(0.06)

Outlet : D

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000

Aneroid pressure

hPa : 1000

Setting mm : 1.7 Tolerance mm + : 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm : 1000

Aneroid pressure

hPa : 1000

Supply pomp

pressure bar : 6.6

Tolerance bar +-: 0.3

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 850

Aneroid pressure

hPa : 1000

Del. quantity

cm3/1000 strokes : 84.5

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s : 5.0

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 71.0

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s : 6.0

Check tolerance

cm3/1000s. : 5.0

IDLE SETTING

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 8.0

Tolerance

cm3/1000 str. + : 2.0

Spread			
SDEERG			+ Tolerance mm + : 0.4
cm3/1000 strokes	•	5,5	Check
Check tolerance	•	3.3	tolerance mm +-: 0.7
cm3/1000s.		7.0	T coceratice into
CIID/ 10005.	•	7.0	CURRILY RUMP PRESSURE CHARACTERISTIC
			SUPPLY PUMP PRESSURE CHARACTERISTIC
			†
			+ Rated speed rpm : 1250
			+ Aneroid pressure
FULL-LOAD SPEED R	EGULA	TION	+ hPa : 1000
			+ Supply pomp
Rated speed rpm	:	1380	pressure bar : 7.6
Pressure hPa	:	1000	+ Tolerance bar + : 0.3
Del. quantity			+
cm3/1000 strokes	:	60.5	Rated speed rpm : 850
Tolerance			+ Aneroid pressure
cm3/1000 str. +-	. •	3.0	hPa : 1000
	•		+ Supply pomp
STARTING FUEL DEL	TVERY		pressure bar : 6.2
OTAMIZING FOLE DEE	TACIVI		Tolerance bar +: 0.3
Rated speed rpm		100	Toteralice bar := . 0.5
Del. quantity	:	100	Rated speed rpm : 500
		00.0	
cm3/1000 strokes	:	85.0	+ Aneroid pressure
Tolerance		4.50	+ hPa : 1000
cm3/1000 str. +-	:	15.0	+ Supply pomp
			pressure bar : 4.4
			+ Tolerance bar + : 0.3
			•
			+ OVERFLOW QUANTITY
			
INJECTION-PUMP TE	ST SP	ECIFICATIONS	+ Rated speed rpm : 500
			+ Overflow quantity
TIMING DEVICE CHA	RACTE	RISTIC	+ ccm/10s : 63.8
			+ Tolerance
Rated speed rpm	:	1250	+ ccm/10s +: 22.2
Aneroid pressure			
hPa		1000	† Check tolerance
•	•	ILRAL	
	:	1000	+ ccm/10s $+$ · 22.2
SV travel mm	•		+ ccm/10s + : 22.2
SV travel mm		2.4	+
Tolerance mm +-	-		Rated speed rpm : 1250
Tolerance mm +- Check	-	2.4 0.4	Rated speed rpm : 1250 Aneroid pressure
Tolerance mm +-	-	2.4	Rated speed rpm : 1250 Aneroid pressure hPa : 1000
Tolerance mm +- Check tolerance mm +-	:	2.4 0.4 0.7	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity
Tolerance mm +- Check tolerance mm +- Rated speed rpm	-	2.4 0.4	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure	:	2.4 0.4 0.7 500	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance
Tolerance mm +- Check tolerance mm +- Rated speed rpm	:	2.4 0.4 0.7	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa	:	2.4 0.4 0.7 500 1000	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance ccm/10s + : 27.7
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure	:	2.4 0.4 0.7 500	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance ccm/10s + : 27.7 Check tolerance
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa Rated speed rpm	:	2.4 0.4 0.7 500 1000 450	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance ccm/10s + : 27.7
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm	:	2.4 0.4 0.7 500 1000 450 2.4	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 27.7
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm +-	:	2.4 0.4 0.7 500 1000 450	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance ccm/10s + : 27.7 Check tolerance
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm +- Check	:	2.4 0.4 0.7 500 1000 450 2.4 0.5	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 27.7
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm +-	:	2.4 0.4 0.7 500 1000 450 2.4	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 27.7
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm +- Check	:	2.4 0.4 0.7 500 1000 450 2.4 0.5	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 27.7 DELIVERY AND BREAKAWAY CHARACTERISTIC
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm +- Check	:	2.4 0.4 0.7 500 1000 450 2.4 0.5	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 27.7 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1380
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm +- Check tolerance mm +-		2.4 0.4 0.7 500 1000 450 2.4 0.5 0.7	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 27.7 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1380 Aneroid pressure hPa : 1000
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm +- Check tolerance mm +- KSB/AFB Volt		2.4 0.4 0.7 500 1000 450 2.4 0.5 0.7 24	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 27.7 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1380 Aneroid pressure hPa : 1000 Del. quantity
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm +- Check tolerance mm +- KSB/AFB Volt Rated speed rpm		2.4 0.4 0.7 500 1000 450 2.4 0.5 0.7	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 27.7 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1380 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 60.5
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm +- Check tolerance mm +- KSB/AFB Volt Rated speed rpm Aneroid pressure		2.4 0.4 0.7 500 1000 450 2.4 0.5 0.7 24	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 27.7 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1380 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 60.5 Tolerance
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm +- Check tolerance mm +- KSB/AFB Volt Rated speed rpm		2.4 0.4 0.7 500 1000 450 2.4 0.5 0.7 24	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +-: 27.7 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1380 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 60.5 Tolerance cm3/1000 str. +-: 3.0
Tolerance mm +- Check tolerance mm +- Rated speed rpm Aneroid pressure hPa Rated speed rpm SV travel mm Tolerance mm +- Check tolerance mm +- KSB/AFB Volt Rated speed rpm Aneroid pressure		2.4 0.4 0.7 500 1000 450 2.4 0.5 0.7 24	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 77.7 Tolerance ccm/10s +: 27.7 Check tolerance ccm/10s +: 27.7 DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 1380 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 60.5 Tolerance

	1	Rated speed rpm : 1250
Rated speed rpm :	1465	Aneroid pressure
Aneroid pressure	1000	hPa : 1000
hPa : Del. quantity	1000	Del. quantity cm3/1000 strokes : 1.5
cm3/1000 strokes :	20.0	Tolerance
Check tolerance	10.0	cm3/1000 str. +: 1.5
cm3/1000s. +-:	10.0	Check tolerance cm3/1000s. +-: 1.5
Rated speed rpm :	1510	1.5
Aneroid pressure	1000	
hPa : Del. quantity	1000	IDLE DELIVERY
cm3/1000 strokes :	1.5	# V m to V m to # V to 1 1 1
Tolerance	+	Rated speed rpm : 410
cm3/1000 str. +-: Check tolerance	1.5	Del. quantity cm3/1000 strokes : 1.5
cm3/1000s. +:	1.5	Tolerance
Dahad awaad awa	£000	cm3/1000 str. +: 1.5
Rated speed rpm : Aneroid pressure	600	Check tolerance cm3/1000s. +-: 1.5
hPa :	450	
Del. quantity cm3/1000 strokes :	79.5	
Tolerance	79.5	
cm3/1000 str. +:	0.5	
Check tolerance cm3/1000s. +-:	4.0	CTART TRANSITION
cino/1000s.	7.0	START TRANSITION
Rated speed rpm :	1250	Rated speed rpm : 240
Aneroid pressure hPa :	1000	Del. quantity cm3/1000 strokes : 80.0
Del. quantity	T	Tolerance
cm3/1000 strokes :	84.0	cm3/1000 str. + : 15.0
Tolerance cm3/1000 str. + :	1.5	
Check tolerance	+	Rated speed rpm : 130
cm3/1000s. +:	3.0	Del. quantity
Rated speed rpm :	500	cm3/1000 strokes : 95.0 Tolerance
Aneroid pressure	+	cm3/1000 str. +-: 20.0
hPa :	1000 +	
Del. quantity cm3/1000 strokes :	97.0	ASSEMBLY AND ADJUSTMENT DIMENSIONS
Tolerance	+	
cm3/1000 str. + :	5.0	Dimension K mm : 3,7 Tolerance mm +-: 0,1
Rated speed rpm :	850	Dimension KF mm : 6,4
Aneroid pressure	+	Tolerance mm + : 0,2
hPa : Del. quantity	1000	MS1 dimension mm : 1,35 Tolerance mm + : 0,15
cm3/1000 strokes :	84.5	SVS dimension mm : 3,1
Tolerance	+	·
cm3/1000 str. + : Check tolerance	0.5	
cm3/1000s. +:	3.0	CONTROL LEVER POSITION
	+	SET
MEGUALIZANI CULTOFF	+	

MECHANICAL SHUTOFF

Control lever position YA mm : 34,8..38,8

Control lever

: 43,8..49,4 position YB mm

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.04.97 Test oil : ISO 4113

Part no. : 3 281 930

Pump designation: VE6/12F1250R498G

Customer-spec. information

Customer : CDC

Motor : 6 BTAA 5.9B

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C +- : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 109

Opening pressure

bar : 207 Tolerance bar +- : 3

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,4

Tolerance mm +: 0,02(0,06)

Outlet : D

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000

Aneroid pressure

hPa : 1000

Setting mm : 1.7
Tolerance mm + : 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm : 1000

Aneroid pressure

hPa : 1000

Supply pomp

pressure bar : 6.6 Tolerance bar + : 0.3

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 850

Aneroid pressure

hPa : 1000

Del. quantity

cm3/1000 strokes : 84.5

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 5.0

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 71.0

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 6.0

Check tolerance

cm3/1000s. : 5.0

IDLE SETTING

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 8.0

Tolerance

cm3/1000 str. + : 2.0

Spread		+	Tolerance mm +	. :	0.4
cm3/1000 strokes	: 5.:	5 🗼	Check	·	
Check tolerance		+	tolerance mm +	. :	0.7
cm3/1000s.	: 7.6) }			
		+	SUPPLY PUMP PRESS	URE	CHARACTERISTIC
		+	~		
		†	Rated speed rpm	:	1250
FULL-LOAD SPEED R	ECHI ATTON	†	Aneroid pressure		4000
FULL-LUMD SPEED R	EGOCALION	Ť	hPa Supply page	:	1000
Rated speed rpm	: 1380	I	Supply pomp pressure bar	•	7.6
Pressure hPa	: 100	$_{1}$	Tolerance bar +	. •	0.3
Del. quantity			TOTAL COLUMN	•	0.5
cm3/1000 strokes	: 60.	5 🕹	Rated speed rpm	:	850
Tolerance		+	Aneroid pressure	•	
cm3/1000 str. +-	: 3.0) +	hPa	:	1000
		+	Supply pomp		
STARTING FUEL DEL	IVERY	+	pressure bar	:	6.2
		+	Tolerance bar +	:	0.3
Rated speed rpm	: 100	+			
Del. quantity	05	<u> </u>	Rated speed rpm	:	500
cm3/1000 strokes	: 85.0	†	Aneroid pressure		4000
Tolerance	. 15	, †	hPa Samula and a	:	1000
cm3/1000 str. +	: 15.0	7 †	Supply pomp		
		Ī	pressure bar Tolerance har +-		4.4 0.3
		I	roterance nar +-	•	0.5
		1	OVERFLOW QUANTITY	,	
INJECTION-PUMP TE	ST SPECIFI	CATIONS	Rated speed rpm	:	500
		+	Overflow quantity		
TIMING DEVICE CHAP	RACTERISTI	+	ccm/10s		63.8
		+	Tolerance		
Rated speed rpm	: 1250	+	ccm/10s +-	:	22.2
Aneroid pressure	. 400	, †	Observation and a servation		
hPa	: 1000	' †	Check tolerance		22.2
SV travel mm	: 2.4	, I	ccm/10s +-		22.2
Tolerance mm +-	: 0.4		Rated speed rpm	:	1250
Check		I	Aneroid pressure	•	1230
tolerance mm +-	: 0.7	7	hPa	•	1000
		1	Overflow quantity	•	1000
Rated speed rpm	: 500	+	ccm/10s	:	77.7
Aneroid pressure		+	Tolerance		
hPa	: 1000) +	ccm/10s +-	:	27.7
		+			
Rated speed rpm	: 450	†	Check tolerance		
Cld dans cal ma		, †	ccm/10s +-	:	27.7
SV travel mm	: 2.4		NELTHERY AND DOCA	12 A) 14	NV CHADACTEDICTIC
Tolerance mm + Check	: 0.:	' I	DELIVERY AND BREA	KAWA	AT CHARACTERISTIC
tolerance mm +	: 0.7	, I	Rated speed rpm	:	1380
cocer direct min		1	Aneroid pressure	•	1500
KSB/AFB Volt	: 17	2	hPa	•	1000
		1	Del. quantity	•	
Rated speed rpm	: 850	+	cm3/1900 strokes	:	60.5
Aneroid pressure		+	Tolerance		
hPa	: 1000) +	cm3/1000 str. +-	:	3.0
		. +	Check tolerance		
SV travel mm	: 0.7	' +	cm3/1000s. +-	:	6.0

	+	- Rated speed rpm : 1250
Rated speed rpm : Aneroid pressure	1465	- Aneroid pressure - hPa : 1000
hPa :	1000	- Del. quantity
Del. quantity	+	- cm3/1000 strokes : 1.5
cm3/1000 strokes :	20.0	- Tolerance
Check tolerance cm3/1000s. +-:	10.0	- cm3/1000 str. +-: 1.5 - Check tolerance
(1107 10000 1	10.0	- cm3/1000s. +-: 1.5
Rated speed rpm :	1510	-
Aneroid pressure	+	-
hPa :	1000	TOUE OF THEON
Del. quantity cm3/1000 strokes :	1.5	- IDLE DELIVERY
Tolerance	1.3	- Rated speed rpm : 410
cm3/1000 str. +-:	1.5	- Del. quantity
Check tolerance	+	- cm3/1000 strokes : 1.5
cm3/1000s. +-:	1.5	- Tolerance
Rated speed rpm :	600	- cm3/1000 str. +-: 1.5 - Check tolerance
Aneroid pressure	1	- cm3/1000s. +-: 1.5
hPa :	450	•
Del. quantity	+	-
cm3/1000 strokes :	79.5	-
Tolerance cm3/1000 str. +-:	0.5	•
Check tolerance	1	-
cm3/1000s. + :	4.0	- START TRANSITION
make decreased a second	4250	
Rated speed rpm : Aneroid pressure	1250	- Rated speed rpm : 240 - Del. quantity
hPa :	1000	- cm3/1000 strokes : 80.0
Del. quantity	+	- Tolerance
cm3/1000 strokes :	84.0	- cm3/1000 str. + : 15.0
Tolerance cm3/1000 str. + :	1.5	-
Check talerance	1.3	- Rated speed rom : 130
cm3/1000s. +-:	3.0	Del. quantity
		- cm3/1 000 strokes : 95.0
Rated speed rpm :	500 +	- Tolerance
Aneroid pressure hPa :	1000	cm3/1000 str. +-: 20.0
Del. quantity	1000	
cm3/1000 strokes :	97.0	- ASSEMBLY AND ADJUSTMENT DIMENSIONS
Tolerance	t +	
cm3/1000 str. +-:	5.0	Dimension K mm : 3,7
Rated speed rpm :	850	- Tolerance mm +-: 0,1 - Dimension KF mm : 6,4
Aneroid pressure	+	Tolerance mm +: 0,2
hPa :	1000	MS1 dimension mm : 1,35
Del. quantity	9/ 5	Tolerance mm +: 0,15
cm3/1000 strokes : Tolerance	84.5	- SVS dimension mm : 3,1
cm3/1000 str. +-:	0.5 I	
Check tolerance	+	
cm3/1000s. +:	3.0	CONTROL LEVER POSITION
	<u> </u>	- SET -

MECHANICAL SHUTOFF

Control lever position YA mm

: 34,8..38,8

Control lever

position YB mm :

: 43,8..49,4

	+				
BOSCH INJ. PUMP TEST SPI	ECIFICATIONS	Rated speed rpm	:	1500	
Note remarks	1	Setting mm	:	4.0	
	+	Setting mm Tolerance mm +-	:	0.1	
Refer to Service Info fo		Shutoff solenoid			
adjustment instructions		Volt	:	12	
See microcard(s) W400/.	+				
- 19. 1	-, - <u>-</u>	SUPPLY PUMP PRESSI	URE		
Edition : 23.0	14.97			4===	
Test oil : ISO	4113	Rated speed rpm	:	1500	
Domb. m.	(O (O) 777	Supply pomp			
Part no. : 0 40 Pump designation : VE4	00 494 337 /053435550/	pressure bar	:	0.0	
Pump designation : VE4	19F21/3K3U4	Tolerance bar +-		0.3	
		Shutoff solenoid	_	10	
Customer-spec. informat	ion	Volt	•	12	
		FULL-LOAD DELIV.	MTTHM	TPANE TH	DDECC!
Customer : PSA Motor : DJ :	$\frac{1}{2}$	TOLL LOAD DELIV.	₩ T I UÒ	01 00031	r RESSU
. 00	I	Rated speed rpm	•	1250	
	I	Del. quantity	•	100	
TEST BENCH REQUIREMENTS	1	cm3/1000 strokes	:	42.N	
	1	Tolerance	•		
Calibrating-oil	1	cm3/1000 str. +-	:	0.5	
return	+	Spread			
temperature *C :	45	cm3/1000 strokes	:	2.0	
Tolerance °C ←:		Shutoff solenoid		_	
	+	Volt	:	12	
Overflow	+				
restriction mm :	0.55				
	+	HOUSING-FIXED IDL			
	+	RESIDUAL QUANTITY	SETT	ING	
Inlet press. bar : 0				. ==	
Tolerance bar + : 0	,U5 +	Rated speed rpm		475	
	+	Del. quantity		~3	
Tank wanta batas	†	cm3/1000 strokes	:	5.5	
Test nozzle holde	28 001 022	Tolerance	_	0.5	
assembly : 1 68	38 901 022	cm3/1000 str. +-	:	0.5	
Opening proceurs	†	Shutoff solenoid		17	
Opening pressure bar :	130	Volt	•	12	
Tolerance bar + :	3	IDLE DELIVERY			
: Otto ance bar 7 .	Ĭ	TACK ACTIACK!			
	I	Rated speed rpm	•	375	
Test lines : 1 68	30 750 073	Del. quantity	•	٥, ٥	
	1	cm3/1000 strokes	:	17.0	
Outside diameter : 6.	.00	Tolerance	•		
	<u> </u>	cm3/1000 str. +	:	1.0	
x inside diameter: 2.	.00	Spread	-	. • •	
	50	cm3/1000 strokes	:	2.0	
-	+	Shutoff solenoid			
		Volt	:	12	
REMARKS	+				
	+	HIGH IDLE SETTING			
	+				
	+	Rated speed rpm	:	500	
	+	Del. quantity		. -	
INJECTION PUMP SETTING \	ALUES +	cm3/1000 strokes	:	9.0	
TIMING APIETON TONIO	†	Tolerance		4.5	
TIMING DEVICE TRAVEL	+	cm3/1000 str. +	:	1.0	

Shutoff solenoid	1
Volt : 12	
	INJECTION-PUMP TEST SPECIFICATIONS
FULL-LOAD SPEED REGULATION	F TIMING DEVICE CHARACTERISTIC
Rated speed rpm : 2600	F TIMING DEVICE CHARACTERISTIC
Del. quantity	Rated speed rpm : 2100
cm3/1000 strokes : 13.0 -	C)
cm3/1000 str. +-: 2.0	SV travel mm : 7.0 Tolerance mm + : 0.4
Shutoff solenoid	Check
Volt : 12	tolerance mm +: 0.7
<u> </u>	Shutoff solenoid Volt : 12
SET GRADUATED STARTING DELIVERY	
CONTROL LEVER, IDLE STOP	Rated speed rpm : 900
Rated speed rpm : 100	SV travel mm : 1.0
Del. quantity	Tolerance mm +-: 0.4
cm3/1000 strokes : 56.0	- Check
Tolerance - cm3/1000 str. +-: 3.0	tolerance mm + : 0.7 Shutoff solenoid
Shutoff solenoid	- Volt : 12
Volt : 12	
-	SUPPLY PUMP PRESSURE CHARACTERISTIC
LOAD-DEPENDENT START OF DELIVERY	Rated speed rpm : 2100
SETTING	- Supply pomp
DELIVERY DIFFERENCE	- pressure bar : 7.8 - Tolerance bar +-: 0.3
DELIVERY DIFFERENCE	- Tolerance bar +-: 0.3 - Shutoff solenoid
Rated speed rpm : 1500	- Volt : 12
Del. quantity - cm3/1 000 strokes : -14.5 -	h Datad anada na COO
cm3/1 000 strokes : -14.5 - Tolerance -	- Rated speed rpm : 900 - Supply pomp
cm3/1000 str. +: 1.0	pressure bar : 4.3
Shutoff solenoid	Tolerance bar +: 0.3
Volt : 12	Shutoff solenoid Volt : 12
PRESSURE DIFFERENCE	-
Parked annual man at 4500	OVERFLOW QUANTITY
Rated speed rpm : 1500 - Del. quantity -	Rated speed rpm : 2100
cm3/1000 strokes : -0.2	Overflow quantity
Tolerance	ccm/10s : 97.2
cm3/1000 str. + : 0.1 - Shutoff solenoid -	- Tolerance - ccm/10s +-: 41.6
Volt : 12	
TIMING APUTOR TRAVEL ATCPEDENCE	- Check tolerance
TIMING-DEVICE TRAVEL DIFFERENCE	- ccm/10s +-: 41.6 - Shutoff solenoid
Rated speed rpm : 1500	- Volt : 12
Del. quantity	Dahad anaad === (00
cm3/1000 strokes : -1.3 - Tolerance -	- Rated speed rpm : 600 - Overflow quantity
cm3/1000 str. +-: 0.1	- ccm/10s : 63.8
Shutoff solenoid -	- Tolerance
Volt : 12	- ccm/10s +-: 22.2

		1	Tolerance	
Check tolerance		1	cm3/1000 str. +-:	1.5
ccm/10s +-		22.2	Check tolerance	1.5
Shutoff solenoid	•	7	cm3/1000s. +-:	3.0
		45		3.0
Volt	:	12	Shutoff solenoid	
		t	Volt :	12
DELIVERY AND BREAK	CAWAY	CHARACTERISTIC +		
		+	Rated speed rpm :	1250
Rated speed rpm	: 7	2600 +	Del. quantity	
Del. quantity		1	cm3/1000 strokes :	42.0
cm3/1000 strokes	:	13.0	Tolerance	
Tolerance	•	1	cm3/1000 str. +-:	0.5
cm3/1000 str. +-	•	2.0	Check tolerance	0.5
Check tolerance	•	2.0	cm3/1000s. +-:	2.2
cm3/1000\$. +		4.0 I		۲.۲
- ·	•	4.0	Shutoff solenoid	13
Shutoff solenoid		†	Volt :	12
Volt	:	12 +		
		<u>.</u>		
Rated speed rpm	: 7	2400 +	MECHANICAL SHUTOFF	
Del. quantity		+		
cm3/1000 strokes	:	30.0	Rated speed rpm :	2100
Tolerance		1	Del. quantity	
cm3/1000 str. +	:	3.0	cm3/1000 strokes :	1.5
Check tolerance	•	1	Tolerance	
cm3/1000s. +		5.0	cm3/1000 str. +-:	1.5
Shutoff solenoid		7.0		1.5
		12	Spiread	5.0
Volt	:	12	cm3/1000 strokes :	5.0
		-	Check tolerance	4 5
Rated speed rpm	: 7	2825 +	cm3/1000s. +-:	1.5
Del. quantity		+	Spread	
cm3/1000 strokes	:	1.5	cm3/1000 strokes :	5.0
Tolerance		+	Shutoff solenoid	
cm3/1000 str. $+-$:	1.5	Volt :	12
Check tolerance		+		
cm3/1000s. +-	:	1.5		
Shutoff solenoid		1	ELECTR. SHUTOFF	
		12		STOP
Valt	•			
Volt	:	1	CONTROL LEVER, IDLE	3101
	:	į.		
Rated speed rpm	:	2100	Rated speed rpm :	375
Rated speed rpm Del. quantity		2100	Rated speed rpm : Del. quantity	375
Rated speed rpm Del. quantity cm3/1000 strokes		į.	Rated speed rpm : Del. quantity cm3/1000 strokes :	375
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	2100 +	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance	375 1.5
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +-	:	2100	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-:	375 1.5
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance	:	2100 44.0 1.0	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance	375 1.5 1.5
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +-	:	2100 +	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + :	375 1.5
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance	:	2100 44.0 1.0 2.2	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Spread	375 1.5 1.5 1.5
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +-	:	2100 44.0 1.0	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + :	375 1.5 1.5
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +- Shutoff solenoid	:	2100 44.0 1.0 2.2	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Spread	375 1.5 1.5 1.5
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +- Shutoff solenoid Volt	:	2100 44.0 1.0 2.2 12	Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Spread cm3/1000 strokes:	375 1.5 1.5 1.5 5.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +- Shutoff solenoid Volt Rated speed rpm	:	2100 44.0 1.0 2.2	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Spread	375 1.5 1.5 1.5 5.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +- Shutoff solenoid Volt Rated speed rpm Del. quantity	: : : : : : : : : : : : : : : : : : : :	2100 44.0 1.0 2.2 12 750	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Spread cm3/1000 strokes : FULL-LOAD STOP CONTRO	375 1.5 1.5 1.5 5.0 DL LEVER
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +- Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	2100 44.0 1.0 2.2 12	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Spread cm3/1000 strokes : FULL-LOAD STOP CONTRO	375 1.5 1.5 1.5 5.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +- Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : : : : : : : : : : : : : : : : :	2100 44.0 1.0 2.2 12 750 41.5	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Spread cm3/1000 strokes : FULL-LOAD STOP CONTRO Rated speed rpm : Del. quantity	375 1.5 1.5 1.5 5.0 DL LEVER 375
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +- Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +-	: : : : : : : : : : : : : : : : : : : :	2100 44.0 1.0 2.2 12 750	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Spread cm3/1000 strokes : FULL-LOAD STOP CONTRO Rated speed rpm : Del. quantity cm3/1000 strokes :	375 1.5 1.5 1.5 5.0 DL LEVER 375
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +- Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	2100 44.0 1.0 2.2 12 750 41.5 1.5	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Spread cm3/1000 strokes : FULL-LOAD STOP CONTRO Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance	375 1.5 1.5 1.5 5.0 DL LEVER 375 1.5
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +- Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +-	: : : : : : : : : : : : : : : : : : : :	2100 44.0 1.0 2.2 12 750 41.5	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Spread cm3/1000 strokes : FULL-LOAD STOP CONTRO Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + :	375 1.5 1.5 1.5 5.0 DL LEVER 375
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +- Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt	: : : : : : : : : : : : : : : : : : : :	2100 44.0 1.0 2.2 12 750 41.5 1.5	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Spread cm3/1000 strokes : FULL-LOAD STOP CONTRO Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Spread	375 1.5 1.5 1.5 5.0 DL LEVER 375 1.5
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +- Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt Rated speed rpm	: : : : : : : : : : : : : : : : : : : :	2100 44.0 1.0 2.2 12 750 41.5 1.5	Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Spread cm3/1000 strokes: FULL-LOAD STOP CONTRO Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Spread cm3/1000 strokes:	375 1.5 1.5 1.5 5.0 DL LEVER 375 1.5
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +- Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 str. +- Shutoff solenoid Volt Rated speed rpm Del. quantity	: : : : : : : : : : : : : : : : : : : :	2100 44.0 1.0 2.2 12 750 41.5 1.5 12	Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Spread cm3/1000 strokes: FULL-LOAD STOP CONTRO Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Spread cm3/1000 strokes: Check tolerance	375 1.5 1.5 1.5 5.0 DL LEVER 375 1.5 1.5 5.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +- Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt Rated speed rpm	: : : : : : : : : : : : : : : : : : : :	2100 44.0 1.0 2.2 12 750 41.5 1.5	Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Spread cm3/1000 strokes: FULL-LOAD STOP CONTRO Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Spread cm3/1000 strokes:	375 1.5 1.5 1.5 5.0 DL LEVER 375 1.5
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +- Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 str. +- Shutoff solenoid Volt Rated speed rpm Del. quantity	: : : : : : : : : : : : : : : : : : : :	2100 44.0 1.0 2.2 12 750 41.5 1.5 12	Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Spread cm3/1000 strokes: FULL-LOAD STOP CONTRO Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Spread cm3/1000 strokes: Check tolerance	375 1.5 1.5 1.5 5.0 DL LEVER 375 1.5 1.5 5.0

Spread cm3/1000 strokes : 5.0	Check tolerance mm +: 0.7 Shutoff solenoid Volt : 12
	START TRANSITION
CHECKING LOAD-DEPENDENT START OF DELIVERY	Rated speed rpm : 350 Del. quantity
DELIVERY DIFFERENCE	cm3/1000 strokes : 35.0 Tolerance
Rated speed rpm : 1500	cm3/1000 str. +: 10.0 Shutoff solenoid
Del. quantity cm3/1000 strokes : -17.0	+ Volt : 12 +
Tolerance cm3/1000 str. + : 3.0 Check tolerance	Rated speed rpm : 200 Del. quantity
cm3/1000s. +-: 5.0 Shutoff solemoid	cm3/1000 strokes : 70.0
Volt : 12	- cm3/1000 str. +-: 20.0 - Shutoff solenoid
TIMING-DEVICE TRAVEL DIFFERENCE	+ Volt : 12
Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -1.3	ASSEMBLY AND ADJUSTMENT DIMENSIONS
Tolerance cm3/1000 str. +-: 0.1	Dimension K mm : 3,7 Tolerance mm +: 0,1
Check tolerance cm3/1000s. +: 0.1	Dimension KF mm : 6,0 Tolerance nm +: 0,2
Shutoff solenoid Volt : 12	+ Dimension MS mm : 1,0 + Tolerance mm + : 0,1
DELIVERY DIFFERENCE	+
Rated speed rpm : 1500 Del. quantity	CONTROL LEVER POSITION SET
<pre>cm3/1000 strokes : 5.0 Tolerance cm3/1000 str. +-: 3.0</pre>	† † Control lever
Check tolerance cm3/1000s. + : 3.0	position YA mm : 34,738,7
Shutoff solenoid Volt : 12	Control lever position YB mm : 63,374,7
PRESSURE DIFFERENCE	
Rated speed rpm : 1500 Supply pomp	End of test-specification sheet
pressure bar : -1.2 Tolerance bar + : 0.3	+
Shutoff solenoid Volt : 12	<u>†</u>

TIMING-DEVICE TRAVEL DIFFERENCE

0.6

Rated speed rpm : 1500 Tolerance mm +-: 0.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.04.97 Test oil : ISO 4113

Part no. : 0 460 414 140 Pump designation : VE4/11F2100R683

Customer—spec. information Customer : PSA

Motor : DJ5 TED Power KW : 80.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 55
Tolerance °C + : 1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35
Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 114

Opening pressure

bar : 207 Tolerance bar +- : 3

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 1,08
Tolerance mm + : 0,02
Outlet : B

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500 Aneroid pressure hPa : 1200

Setting mm : 3.5
Tolerance mm + : 0.2
Shutoff solenoid
Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1500
Aneroid pressure
hPa : 1200
Supply pomp
pressure bar : 7.5
Tolerance bar +: 0.2
Shutoff solenoid
Volt : 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 1250 Aneroid pressure hPa 1200 Del. quantity cm3/1000 strokes : 45.4 Tolerance cm3/1000 str. +-:0.5 Spread cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. 4.0 Shutoff solenoid Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 34.6
Tolerance
cm3/1000 str. + : 0.5
Shutoff solenoid
Volt : 12
Check tolerance
cm3/1000s. : 4.0

		t
HOUSING-FIXED IDL		PRESSURE DIFFERENCE
Rated speed rpm	: 500	Rated speed rpm : 1500 Aneroid pressure
Del. quantity cm3/1000 strokes		hPa : 1200 Del. quantity
Tolerance		+ cm3/1000 strokes : -0.2
cm3/1000 str. +- Shutoff salenoid		Tolerance cm3/1000 str. +-: 0.1
Volt	: 12	Shutoff solenoid Volt : 12
IDLE DELIVERY		
Rated speed rpm Del. quantity	: 375	INJECTION-PUMP TEST SPECIFICATIONS
cm3/1000 strokes Tolerance	: 25.0	TIMING DEVICE CHARACTERISTIC
cm3/1000 str. +- Spread	: 1.0	Rated speed rpm : 2100 Aneroid pressure
cm3/1000 strokes Shutoff solenoid	: 2.0	hPa : 1200
Volt	: 12	SV travel mm : 6.8
HIGH IDLE SETTING		Tolerance mm +-: 0.4 Check
Rated speed rpm	: 500	tolerance mm + : 0.7 Shutoff solenoid
Del. quantity cm3/1000 strokes	: 20.0	+ Volt : 12
Tolerance cm3/1000 str. +-	: 1.0	Rated speed rpm : 1000 Aneroid pressure
Shutoff solenoid Volt	: 12	hPa : 1200
FULL-LOAD SPEED R		SV travel mm : 0.7 Tolerance mm +-: 0.4
		Check
Rated speed rpm Pressure hPa	: 1200	Shutoff solenoid
Del. quantity cm3/1000 strokes	: 39.0	Volt : 12
Tolerance cm3/1000 str. +-	: 2.0	SUPPLY PUMP PRESSURE CHARACTERISTIC
Shutoff solenoid Volt	: 12	Rated speed rpm : 2100 Aneroid pressure
STARTING FUEL DEL	IVERY	hPa : 1200 Supply pomp
Rated speed rpm	: 100	pressure bar : 9.2 Tolerance bar + : 0.3
Del. quantity cm3/1000 strokes		Shutoff solenoid Volt : 12
Tolerance		
cm3/1000 str. +- Shutoff solenoid		Rated speed rpm : 750 Aneroid pressure
Volt	: 12	hPa : 1200 Supply pomp
		pressure bar : 5.5 Tolerance bar +-: 0.3
LOAD-DEPENDENT STA	ART OF DELIVERY	Shutoff solenoid Volt : 12

OVERFLOW QUANTITY		‡	Aneroid pressure hPa :	500
Rated speed rpm Overflow quantity		1	LDA/ HBA stroke mm :	6.3
ccm/10s Tolerance	: 138.8	‡	Del. quantity cm3/1000 strokes :	44.2
ccm/10s +-	: 41.6	1	Tolerance cm3/1000 str. +-:	0.5
Check tolerance		+	Check tolerance	
ccm/10s +- Shutoff solenoid	: 41.6	‡	cm3/1000s. +: Shutoff solenoid	3.0
Volt	: 12	<u>†</u>	Volt :	12
Rated speed rpm		+	Rated speed rpm :	2100
Overflow quantity ccm/10s	: 111.1	Ŧ	Aneroid pressure hPa :	1200
Tolerance ccm/10s +	: 20.8	‡	Del. quantity cm3/1000 strokes :	49.5
Check tolerance		İ	Tolerance cm3/1000 str. +-:	2.0
ccm/10s +-	: 20,8	+	Check tolerance	
Shutoff solenoid Volt	: 12	Ŧ	cm3/1000s. +: Shutoff solenoid	3.0
DELIVERY AND BREA	KAWAY CHARACTERISTIC	‡	Volt :	12
Rated speed rpm	: 2250	Ì	Rated speed rpm : Aneroid pressure	1000
Aneroid pressure		+	hPa :	1200
hPa Del. quantity	: 1200	‡	Del. quantity cm3/1000 strokes :	48.6
cm3/1000 strokes Tolerance	: 39.0	‡	Tolerance cm3/1000 str. +-:	2.0
cm3/1000 str. +- Check tolerance	: 2.0	+	Check tolerance	3.0
cm3/1000s. +-	: 5.0	Ŧ	Shutoff solenoid	
Shutoff solenoid Volt	: 12	‡	Volt :	12
Rated speed rpm	: 2400	1	Rated speed rpm : Aneroid pressure	500
Aneroid pressure		+	hPa :	1200
hPa Del. quantity	: 1200	Ŧ	Del. quantity cm3/1000 strokes :	63.5
cm3/1000 strokes Check tolerance	: 22.0	‡	Tolerance cm3/1000 str. +-:	2.0
cm3/1000S. +- Shutoff solenoid	: 6.0	‡	Check tolerance cm3/1000s. +-:	2.5
Volt	: 12	+	Shutoff solenoid	12
Rated speed rpm	: 2600	Ŧ	Volt :	
Aneroid pressure hPa	: 1200	‡	Rated speed rpm : Aneroid pressure	1250
Del. quantity cm3/1000 strokes	: 1.5	‡	hPa : Del. quantity	1200
Shutoff solenoid		+	cm3/1000 strokes :	45.4
Volt	: 12	Ŧ	Tolerance cm3/1000 str. +-:	0.5
Rated speed rpm	: 750	‡	Check tolerance cm3/1000s. +-:	2.5

Shutoff solenoid Volt : 12	+ Tolerance - 2.0
, ,	Check to ance
	+ : 3.0
	+ Shutoff solenoid
ELECTR. SHUTOFF	+ Volt : 12
CONTROL LEVER, IDLE STOP	+
	+ DELIVERY DIFFERENCE
Rated speed rpm : 400	Detect around the 1500
Del. quantity cm3/1000 strokes : 1.5	+ Rated speed rpm : 1500
cm3/1000 strokes : 1.5 Folerance	+ Aneroid pressure + hPa : 1200
m3/1000 str. + : 1.5	Del. quantity
Check tolerance	+ cm3/1000 strokes : 5.0
m3/1000s. +-: 1.5	Tolerance
	+ cm3/1000 str. $+$: 3.0
FULL-LOAD STOP CONTROL LEVER	† Check tolerance
	+ cm3/1000s. $+$: 3.0
Rated speed rpm : 400	+ Shutoff solenoid
Del. quantity cm3/1000 strokes : 1.5	+ Volt : 12
cm3/1000 strokes : 1.5 Tolerance	TIMING-DEVICE TRAVEL DIFFERENCE
m3/1000 str. +-: 1.5	I TIMING-DEVICE TRAVEL DIFFERENCE
Check tolerance	+ Rated speed rpm : 1500
m3/1000s. + : 1.5	Aneroid pressure
	hPa : 1200
	+ Tolerance mm + : 0.3
	+ Shutoff solenoid
	† Volt : 12
IDLE DELIVERY	DELIVERY DIFFERENCE
Rated speed rpm : 400	+ Rated speed rpm : 1500
Del. quantity	+ Aneroid pressure
m3/1000 strokes : 13.5	+ hPa : 1200
olerance	+ Del. quantity + cm3/1000 strokes : 34.0
m3/1000 str. + : 3.0	+ cm3/1000 strokes : 34.0 + Tolerance
	- cm3/1000 str. + : 2.0
HECKING LOAD-DEPENDENT	+ Check tolerance
TART OF DELIVERY	+ cm3/1000s. + : 3.0
	+ Shutoff solenoid
ELIVERY DIFFERENCE	† Volt : 12
ated speed rpm : 1500	
neroid pressure	TIMING-DEVICE TRAVEL DIFFERENCE
Pa : 1200	+ Rated speed rpm : 1500
el. quantity m3/1000 strokes : 35.5	+ Rated speed rpm : 1500 + Aneroid pressure
olerance	+ hPa : 1200
m3/1000 str. +-: 0.5	Tolerance mm +: 0.1
hutoff solenoid	Check
olt : 12	tolerance mm + : 0.1
	Shutoff solenoid
ELIVERY DIFFERENCE	† Volt : 12
ated around non 1500	†
ated speed rpm : 1500 neroid pressure	EXHAUST-GAS RECIRCULATION
nerota pressure Pa : 1200	EVINOR AND WESTWOODLING
el. quantity	Rated speed rpm : 1250
m3/1000 strokes : 34.0	+
	•

د ح ما الماق م ما ما الماق	
Aneroid pressure - hPa	: 1200
Del. quantity	
cm3/1000 strokes	: 31.0
Tolerance	
cm3/1000 str. +-	: 1.0
Check tolerance	2.5
cm3/1000s. +- Shutoff solenoid	: 2.5
Volt	: 12
10((
START TRANSITION	
Rated speed rpm	: 430
Del. quantity	
cm3/1000 strokes	: 34.0
Tolerance	45.5
cm3/1000 str. +-	: 15.0
Shutoff solenoid Volt	: 12
VOCC	. 12
Dated speed spe	: 255
Rated speed rpm Del. quantity	. 233
cm3/1000 strokes	: 69.0
Tolerance	
cm3/1000 str. +-	: 15.0
Shutoff solenoid	•
Volt	: 12
ASSEMBLY AND ADJUS	STMENT DIMENSIONS
	•
LDA/	
HBA stroke mm	: 6.3
Dimension K mm	: 3,3
Tolerance mm +	: 0,1
Dimension KF mm	: 8,4
Tolerance mm +	: 0,2
Dimension MS mm	
Tolerance mm +	: 4,2
	· ·
CONTROL LEVER POST	ITION
SET	•
	•
Control lever	. 40 0 22 0
position YA mm	: 18,822,8
	-
End of test-specif	fication cheet
	Italion sheet
	-

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.04.97 Test oil : ISO 4113

: 0 460 414 156 Part no. Pump designation : VE4/11F2100R683-1

Customer-spec. information Customer : PSA Motor : DJ5 TED Power KW 79.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : Tolerance *C +-:

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35 Tolerance bar + :

Test nozzle holde

: 1 688 901 114 assembly

Opening pressure

bar Tolerance bar +:

: 1 680 750 073 Test Lines

Outside diameter : 6.00

x inside diameter: 2.00 x length mm 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,08 Outlet |

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

1500 Rated speed rpm : Aneroid pressure

1200 hPa

Setting mm 3.5 Tolerance mm +: 0.2 Shutoff solenoid Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : Aneroid pressure

hPa 1200 Supply pomp

pressure bar Tolerance bar +: 0.2

Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1250 Aneroid pressure 1200 Del. quantity

cm3/1000 strokes : 45.4 Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 2.0

Check tolerance cm3/1000s.

4.0

Shutoff solenoid

12 Volt :

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 34.6

Tolerance

cm3/1000 str. + : 0.5

Shutoff solenoid

Volt 12

Check tolerance

cm3/1000s. 4.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

1	Aneroid pressure
Rated speed rpm : 500 Del. quantity	hPa : 1200
cm3/1000 strokes : 15.0 +	Del. quantity cm3/1000 strokes : -0.2
Tolerance cm3/1000 str. + : 1.0	Tolerance cm3/1000 str. +-: 0.1
Shutoff solenoid + 12 + 12	Shutoff solenoid Volt : 12
IDLE DELIVERY	
Rated speed rpm : 375	INJECTION-PUMP TEST SPECIFICATIONS
Del. quantity cm3/1000 strokes : 25.0	TIMING DEVICE CHARACTERISTIC
Tolerance + 1.0	Rated speed rpm : 2100
Spread	Aneroid pressure hPa : 1200
cm3/1000 strokes : 2.0 + Shutoff solenoid +	SV travel mm : 6.8
Shutoff solenoid Volt : 12	Tolerance mm +-: 0.4 Check
HIGH IDLE SETTING	tolerance mm + : 0.7 Shutoff solenoid
Rated speed rpm : 500 Del. quantity	Volt : 12
cm3/1000 strokes : 20.0	Rated speed rpm : 1000 Aneroid pressure
cm3/1000 str. +: 1.0 + Shutoff solenoid +	hPa : 1200
Volt : 12	SV travel mm : 0.7
FULL-LOAD SPEED REGULATION	Tolerance mm +-: 0.4 Check
Rated speed rpm : 2250	tolerance mm ++: 0.7 Shutoff solenoid
Pressure hPa : 1200 + Del. quantity +	Volt : 12
cm3/1000 strokes : 39.0	SUPPLY PUMP PRESSURE CHARACTERISTIC
cm3/1000 str. +: 2.0 + Shutoff solenoid	Rated speed rpm : 2100 Aneroid pressure
Volt : 12	hPa : 1200 Supply pomp
STARTING FUEL DELIVERY	pressure bar : 9.2 Tolerance bar + : 0.3
Rated speed rpm : 100	Shutoff solenoid
Del. quantity + cm3/1000 strokes : 98.0 +	Volt : 12
Tolerance cm3/1000 str. + : 25.0 +	Rated speed rpm : 750 Aneroid pressure
Shutoff solenoid Volt : 12	hPa : 1200 Supply pomp
. 12	pressure bar : 5.5
‡	Tolerance bar + : 0.3 Shutoff solenoid
LOAD-DEPENDENT START OF DELIVERY SETTING	Volt : 12
PRESSURE DIFFERENCE	OVERFLOW QUANTITY
Rated speed rpm : 1500	Rated speed rpm : 2100
T T	

Overflow quantity ccm/10s	: 138.8	Check tolerance + : 3.0
Tolerance ccm/10s +-	: 41.6	+ Shutoff solenoid + Volt : 12
Check tolerance ccm/10s +-	: 41.6	Rated speed rpm : 2100 Aneroid pressure
Shutoff solenoid Volt	: 12	hPa : 1200 Del. quantity
Rated speed rpm		cm3/1000 strokes : 49.5 Tolerance
Overflow quantity ccm/10s		cm3/1000 str. + : 2.0 Check tolerance
Tolerance	: 20.8	cm3/1000s. +-: 3.0 Shutoff solenoid
Check tolerance	. 20.0	Volt : 12
ccm/10s +- Shutoff solenoid	: 20.8	Rated speed rpm : 1000
Volt	: 12	+ Aneroid pressure + hPa : 1200
DELIVERY AND BREAK	KAWAY CHARACTERISTIC	+ Del. quantity + cm3/1000 strokes : 48.6 + Tolerance
Rated speed rpm Aneroid pressure	: 2250	cm3/1000 str. + : 2.0
hPa Del. quantity	: 1200	cm3/1000s. +: 3.0 Shutoff solenoid
cm3/1000 strokes Tolerance	: 39.0	volt : 12
cm3/1000 str. +- Cneck tolerance	: 2.0	Rated speed rpm : 500 Aneroid pressure
cm3/1000s. +- Shutoff solenoid	: 5.0	+ hPa : 1200 + Del. quantity
Volt	: 12	cm3/1000 strokes : 63.5 Tolerance
Rated speed rpm Aneroid pressure	: 2400	- cm3/1000 str. +-: 2.0 - Check tolerance
hPa Del. quantity	: 1200	+ cm3/1000s. + : 2.5 + Shutoff solenoid
cm3/1000 strokes Check tolerance	: 22.0	Volt : 12
cm3/1000s. +- Shutoff solenoid	: 6.0	Rated speed rpm : 1250 Aneroid pressure
Volt	: 12	hPa : 1200 Del. quantity
Rated speed rpm Aneroid pressure	: 2600	cm3/1000 strokes : 45.4 Tolerance
hPa Del. quantity	: 1200	cm3/1000 str. + : 0.5 Check tolerance
cm3/1000 strokes Shutoff solenoid	: 1.5	+ cm3/1000s. + : 2.5 + Shutoff solenoid
Volt	: 12	Volt : 12
Rated speed rpm Aneroid pressure	: 750	<u> </u>
hPa Del. quantity	: 500	ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP
cm3/1000 strokes Tolerance	: 44.2	Rated speed rpm : 400
cm3/1000 str. +	: 0.5	- Nateu speed (piii . 400

N . 1			
Del. quantity	1.5	DEL T./EDV DIEEEDENA	-
cm3/1000 strokes :	1.5	DELIVERY DIFFERENCE	=
Tolerance	1.5	Data dana dana	1500
cm3/1000 str. +:	1.3		: 1500
Check tolerance	1.5	Aneroid pressure	4200
cm3/1000s. ←:	1.5	hPa	: 1200
FULL LOAD STOR CONTROL I	TUES	Del. quantity	5.0
FULL-LOAD STOP CONTROL L	EVER +	cm3/1000 strokes	: 5.0
man and an and an and an and an and an an and an an an and an an an and an an an an an an an an an an an an an	· 00	Tolerance	7.0
	,	cm3/1000 str. +-	: 3.0
Del. quantity	1.5	Check tolerance	7.0
cm3/1000 strokes :	1.5	cm3/1000s. +-	: 3.0
Tolerance	1.5	Shutoff solenoid	43
cm3/1000 str. +-:	1.5	Volt	: 12
Check tolerance cm3/1000s. +-:	1.5	TIMENO DEVICE TONI	EL DIFFEDENCE
cm3/1000s. +-:	1.3	TIMING-DEVICE TRAV	EL DIFFERENCE
	†	Dated and all non-	1500
	Ť	Rated speed rpm	: 1500
	Ť	Aneroid pressure h⊇a	: 1200
		Tolerance mm +	
IDLE DELIVERY	<u> </u>	Check	. 0.5
TACE ACCIACUL	Ī	tolerance mm +-	: 0.4
Rated speed rpm : 4	100 I	Shutoff solenoid	. 0.4
Del quantity	I	Volt	: 12
	13.5	VOLL	. ' ' '
Tolerance		DELIVERY DIFFERENCE	=
cm3/1000 str. +-:	3.0	DEELVENT DITTERENCE	-
Shutoff solenoid		Rated speed rpm	: 1500
Volt :	12	Aneroid pressure	
	 	hPa	: 1200
		Del. quantity	
CHECKING LOAD-DEPENDENT	+	cm3/1000 strokes	: 34.0
START OF DELIVERY	+	Tolerance	
	+	cm3/1000 str. +-	: 2.0
DELIVERY DIFFERENCE	-}-	Check tolerance	
	500 +	cm3/1000s. +-	: 3.0
Aneroid pressure	+	Shutoff solenoid	
hPa :	1200	Volt	: 12
Del. quantity			
	35.5	TIMING-DEVICE TRAV	EL NIEEEDENICE
Tolerance	4		C DIFFERENCE
	0.5		
cm3/1000 str. +-:	0.5		: 1500
cm3/1000 str. + : Shutoff solenoid	+	Aneroid pressure	: 1500
cm3/1000 str. +-:	0.5	Aneroid pressure hPa	: 1500 : 1200
cm3/1000 str. +: Shutoff solenoid Volt :	+	Aneroid pressure hPa Tolerance mm +	: 1500
cm3/1000 str. + : Shutoff solenoid	+	Aneroid pressure hPa Tolerance mm +- Check	: 1500 : 1200 : 0.1
cm3/1000 str. + : Shutoff solenoid Volt : DELIVERY DIFFERENCE	12	Aneroid pressure hPa Tolerance mm + Check tolerance mm +-	: 1500 : 1200 : 0.1
cm3/1000 str. + : Shutoff solenoid Volt : DELIVERY DIFFERENCE Reted speed rpm : 15	+	Aneroid pressure hPa Tolerance mm + Check tolerance mm + Shutoff solenoid	: 1500 : 1200 : 0.1 : 0.1
cm3/1000 str. + : Shutoff solenoid Volt : DELIVERY DIFFERENCE Rated speed rpm : 15 Aneroid pressure	12	Aneroid pressure hPa Tolerance mm + Check tolerance mm +-	: 1500 : 1200 : 0.1
cm3/1000 str. + : Shutoff solenoid Volt : DELIVERY DIFFERENCE Reted speed rpm : 15 Aneroid pressure hPa :	12	Aneroid pressure hPa Tolerance mm + Check tolerance mm + Shutoff solenoid	: 1500 : 1200 : 0.1 : 0.1
cm3/1000 str. + : Shutoff solenoid Volt : DELIVERY DIFFERENCE Rated speed rpm : 15 Aneroid pressure hPa : Del. quantity	12 500 1200	Aneroid pressure hPa Tolerance mm + Check tolerance mm + Shutoff solenoid Volt	: 1500 : 1200 : 0.1 : 0.1 : 12
cm3/1000 str. + : Shutoff solenoid Volt : DELIVERY DIFFERENCE Rated speed rpm : 15 Aneroid pressure hPa : Del. quantity cm3/1000 strokes :	12	Aneroid pressure hPa Tolerance mm + Check tolerance mm + Shutoff solenoid	: 1500 : 1200 : 0.1 : 0.1 : 12
cm3/1000 str. + : Shutoff solenoid Volt : DELIVERY DIFFERENCE Reted speed rpm : 15 Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance	12 500 1200 34.0	Aneroid pressure hPa Tolerance mm + Check tolerance mm + Shutoff solenoid Volt EXHAUST-GAS RECIRC	: 1500 : 1200 : 0.1 : 0.1 : 12
cm3/1000 str. + : Shutoff solenoid Volt : DELIVERY DIFFERENCE Reted speed rpm : 15 Aneroid pressure hPa : Del. quantity cm3/1000 strokes :	12 500 1200	Aneroid pressure hPa Tolerance mm + Check tolerance mm + Shutoff solenoid Volt EXHAUST-GAS RECIRC	: 1500 : 1200 : 0.1 : 0.1 : 12
cm3/1000 str. + : Shutoff solenoid Volt : DELIVERY DIFFERENCE Rated speed rpm : 15 Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + :	12 500 1200 34.0	Aneroid pressure hPa Tolerance mm + Check tolerance mm + Shutoff solenoid Volt EXHAUST-GAS RECIRCU Rated speed rpm	: 1500 : 1200 : 0.1 : 0.1 : 12
cm3/1000 str. + : Shutoff solenoid Volt : DELIVERY DIFFERENCE Rated speed rpm : 15 Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance	12 500 1200 34.0 2.0 3.0	Aneroid pressure hPa Tolerance mm + Check tolerance mm + Shutoff solenoid Volt EXHAUST-GAS RECIRCU Rated speed rpm Aneroid pressure	: 1500 : 1200 : 0.1 : 0.1 : 12 ULATION : 1250
cm3/1000 str. + : Shutoff solenoid Volt : DELIVERY DIFFERENCE Rated speed rpm : 15 Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + :	12 500 1200 34.0 2.0	Aneroid pressure hPa Tolerance mm + Check tolerance mm + Shutoff solenoid Volt EXHAUST-GAS RECIRCU Rated speed rpm Aneroid pressure hPa	: 1500 : 1200 : 0.1 : 0.1 : 12 ULATION : 1250 : 1200
cm3/1000 str. + : Shutoff solenoid Volt : DELIVERY DIFFERENCE Rated speed rpm : 15 Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid	12 500 1200 34.0 2.0 3.0	Aneroid pressure hPa Tolerance mm + Check tolerance mm + Shutoff solenoid Volt EXHAUST-GAS RECIRCO Rated speed rpm Aneroid pressure hPa Del. quantity	: 1500 : 1200 : 0.1 : 0.1 : 12 ULATION : 1250 : 1200

Tolerance cm3/1000 str. +-:1.0 Check tolerance cm3/1000s. 2,5 Shutoff solenoid Volt 12 START TRANSITION Rated speed rpm 430 Del. quantity cm3/1000 strokes : 34.0 Tolerance cm3/1000 str. +: 15.0 Shutoff solenoid Volt 12 Rated speed rpm 255 Del. quantity cm3/1000 strokes : 69.0 Tolerance cm3/1000 str. +: 15.0 Shutoff solenoid Volt 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm Tolerance mm +-: 0,1 Dimension KF mm : 8,4 Tolerance mm +-: 0,2 **MICROSWITCH** SET : ARF 12,0 CONTROL LEVER POSITION SET Control lever : 19,1..23,1 position YA mm Control lever position YB mm : 73,0..87,0